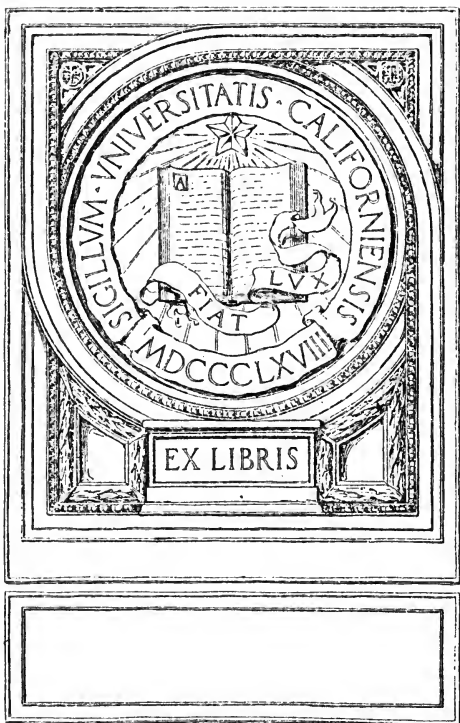
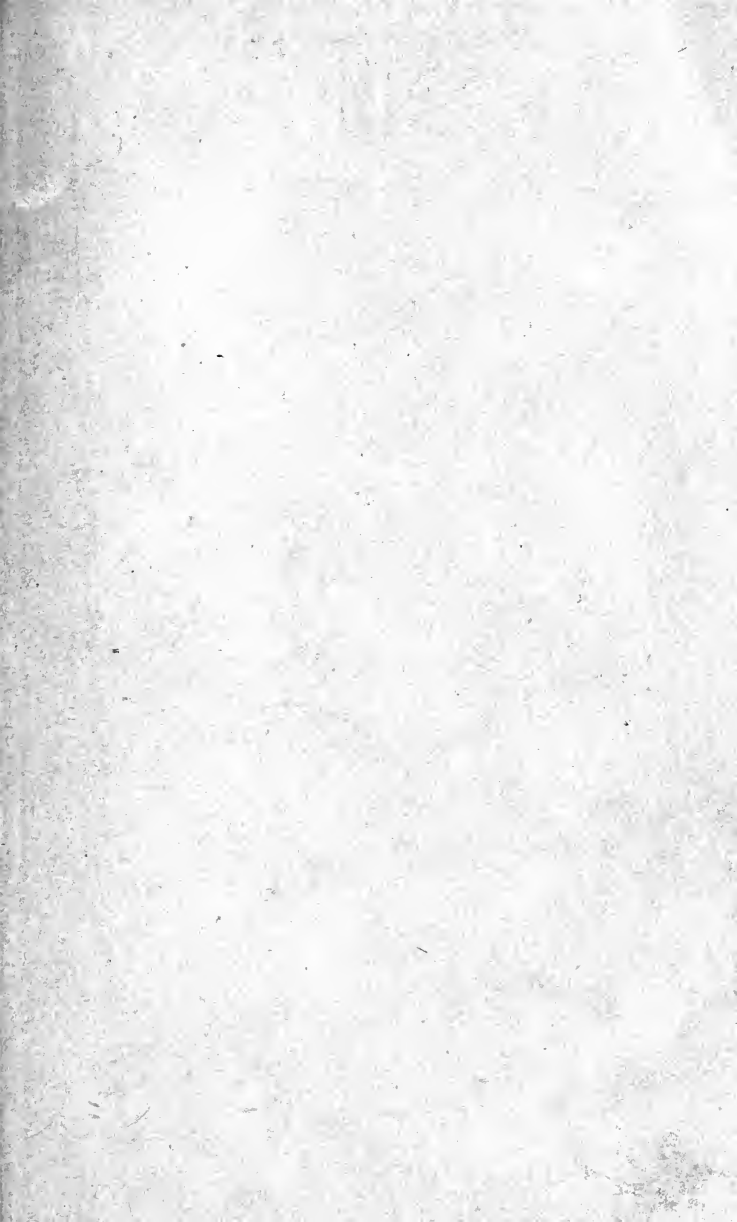


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LANDSBOROUGH'S
EXPLORATION OF AUSTRALIA

From Carpentaria to Melbourne,

WITH ESPECIAL REFERENCE TO THE SETTLEMENT OF AVAILABLE COUNTRY.

EDITED BY

JAMES STUART LAURIE,

FORMERLY H.M. INSPECTOR OF SCHOOLS.

WITH A CHART; AND A SYSTEMATIC ARRANGEMENT OF
CARPENTARIAN PLANTS

BY F. MUELLER, PH.D., M.D., F.R.S.

LONDON:

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Note by the Editor.

THIS little volume was chiefly dictated, with the help of materials recorded in the log-book of the journey, by Mr. Landsborough himself. While the work relieved the tedium of a four months' voyage to Australia, it was thought possible that the result might interest a certain section of the English public, and highly probable, that it would prove serviceable to the migratory portion of the Australian public, in affording simple and trustworthy information in reference to one of their most promising fields of enterprise.

Embracing, as it does, a topic of scientific importance, the publication has been additionally prompted by the consideration that, however barren of sensational incidents an Australian "bush" journey necessarily is, the simple record of the exploration of a hitherto trackless region ought not to lie buried in oblivion. This alone appears a sufficiently reasonable ground for issuing a work of no pretensions, and of no stirring interest

beyond its intimate association with the melancholy theme of the Burke-and-Wills catastrophe.

The Hon. W. Landsborough, legislator and explorer, now presides over the region of the Gulf.* The appointment is a graceful acknowledgment, on the part of the Queensland government, of invaluable services rendered to his adopted country. As my first and best Australian friend, he has my hearty congratulations.

J. S. LAURIE

* See latest accounts of the settlement, towards the end of the text.

P R E F A C E.

It is now pretty generally known that the immediate object of my journey (of 1861-1862) was the rescue of Burke and his party, whose long absence on their northerly expedition had begun to create grave apprehensions, which alas! proved to be only too amply justified. Four search expeditions were organised by the Royal Society of Melbourne: Howitt was despatched from Melbourne to Cooper's Creek (Burke's central depôt), and McInlay from Adelaide to the same destination; Walker was sent overland from Rockhampton to Albert River, Carpentaria, while I was conveyed by ship to that destination, with the following instructions:—to strike from the Albert to Central Mount Stüart, and thenceforward to be guided by circumstances. About midway, the absence of water and the utter desolation of the country compelled a retreat; and, on my return to the Albert, I prosecuted the overland expedition, by the Flinders and the head of Cooper's Creek, to Melbourne. An account of both journeys is briefly given in the following pages.

Ere starting on the latter expedition, the melancholy success of Mr. Howitt's efforts had become known at

the South ; and the tragedy of Cooper's Creek, with all its vainly regretful contingencies, will ever form a mournful page in the annals of Australia. As the sequel, however, will show, I continued ignorant of the fate of my brave fellow explorers until my arrival at the first settlement, on the further side of the continent. Seeing that the ground over which I passed had been hitherto untrodden by the "white-foot," I used every endeavour to fulfil my supplementary instructions with reference to the nature of the country and the capabilities of the soil ; and, in doing so, I was enabled to bring to bear on this department of my work the results of a considerable amount of experience previously acquired in independent explorations. With the exception of the Herbert River district, midway between the Albert and Central Mount Stuart,—it was my good fortune to be enabled to give an unreservedly favourable report of the character of the country ; to fulfil the object of Mitchell's ambition by my junction with his "furthest" inland from Sydney, at the Barcoo ;* and, finally, notwithstanding serious drawbacks detailed in the sequel, to bring my party to Melbourne in safety.

Before entering on my narrative, it may prove useful to give a brief and cursory sketch of the more prominent Australian explorations anterior to my own:—

During the earlier years of the settlement, as Sydney was first styled, exploration went on slowly. Until

* To this point Gregory had also made a successful track from Rockhampton.

1813 all the country to the westward of the distant Blue Mountains was unknown. But the following twelve years saw a great stride in advance: Oxley, Cunningham, Hovel, Hume, &c., made, during that period, tracks to the southward and westward. Oxley (1817-1818), crossing the Blue Mountains, came upon the head of the Lachlan which he traced for a long distance.

Hovel and Hume (1824-1825) crossed from Sydney to Port Philip, the site of the now famous City of Melbourne.

Hume, always a zealous and able explorer, joined Sturt a few years later in tracing the Macquarrie.

In 1826 the last-mentioned intelligent and energetic explorer thoroughly surveyed the Lachlan, Murrumbidgee and Darling Rivers—all of which he found to be tributaries of the Murray. He then descended that river to its estuary, Lake Alexandria—thus opening up that vast tract of now famous country between Sydney and Adelaide.

Among the earliest overlanders from Melbourne to Adelaide, Eyre (now more prominently known in connexion with Jamaica) stands conspicuous. Being reported a first-rate bushman, he was delegated by the South Australians to open up a practicable route for stock to Western Australia (1840-1841). Although he succeeded, by almost a miracle, in reaching his destination at King George's Sound, no one has since been able to follow in his steps. Along his entire route, he found the sea-board low and without rivers; and it was

only by the toilsome process of tapping sand-hill springs, and sinking wells, that he was enabled to procure sufficient water to sustain life. At one place where he was delayed by want of water, his aboriginal companions revolted, robbed the stores and murdered his only white companion. With one faithful black adherent, Eyre succeeded in escaping. Continuing, in the face of terrible privations, to prosecute his journey, he achieved perhaps the most perilous feat on record.

The next great expeditions were made on the other side of the continent (1844-1845). Dr. Leichhardt, who had been appointed as botanist to Sir T. Mitchell, but in consequence of the delay of the latter, released from his engagement, started on an independent expedition from Brisbane to Port Essington. His equipment was so inadequate, that he was compelled to subsist on his bullocks, horses, and the products of the chase: consequently, his journey was so protracted that he had been given up for lost, when his unexpected reappearance at Sydney at once astounded and gratified his friends.

Simultaneously with the last mentioned expedition, occurred those of Sturt and Mitchell in their respective attempts to reach Carpentaria, the one from Adelaide, the other from Sydney. Both of these eminent explorers, although they failed in their primary object, opened up large tracts of available country. The badness of the season in the one case, shortness of provisions in the other, brought the explorers to a halt, singularly enough, both in the neighbourhood of the notorious Cooper's Creek.

Soon after his return from Port Essington, Dr. Leichhardt, with characteristic enthusiasm, organised a second monster expedition, from east to west. Compelled by the sickness of his party to return, he undauntedly resumed his journey with a fresh party. Nothing has since been heard of the great explorer. A vigorous search has lately been suggested by the casual discovery of unexpected traces, and is now being carried out, under Mr. Howitt's leadership (1866).

The furtherance of Mitchell's plans devolved on a member of his party, named Kennedy. He tried to trace the Barcoo, and the result, so far as he succeeded, satisfied him that, instead of flowing northerly, that river formed the head of Cooper's Creek. In returning to the settled districts by a new route, he discovered the river Warrego. He next went to Rockingham Bay, for the purpose of exploring the region of Cape York. The moistness of that district rendered his sheep and horses so useless, that he was compelled to leave them behind, and advance into the country, attended by a solitary black boy. Kennedy was speared by the natives and his companion barely escaped with his life.

These melancholy results occasioned a lull in the field of enterprise till 1856. Then A. C. Gregory, who had gained considerable celebrity in Western Australia, was commissioned by the Royal Geographical Society to explore Northern Australia. Landing at the Victoria river he proceeded southerly, and after crossing to the southern water-shed, and tracing Sturt's Creek for a long way, scarcity of water compelled him to return.

From the Victoria he went in a direction parallel to the coast, overland to Brisbane. In the hope of learning Leichhardt's fate, he travelled in 1859 from Brisbane to Adelaide, *viâ* Cooper's Creek ; but, beyond finding tracks on the Barcoo, the journey was, as regards its main object, fruitless, but in respect of connecting Mitchell's with Sturt's route, and of shewing a practicable road, at least in a favourable season, between Queensland and South Australia, the result was highly important.

Stuart was the first "to plant his flag in the heart of Australia," and, in 1861, he completed his journey to the North Coast.

But the first to cross the entire continent was the ill-fated Burke, who, with his brave companion, Wills, connected Melbourne with the Flinders (1861) ; and the catastrophe which followed this famous expedition gave birth to various others which I have alluded to in my opening remarks.

Much as Australia has been explored, comparatively little has yet been done. A glance at the map will shew a blank space between the intervals of all the leading tracks, and between Central Mount Stuart and Frank Gregory's "furthest," two hundred miles from the west coast. May the day soon arrive when some competitor for his country's applause will succeed in fully realizing the aspirations of the brave Leichhardt !

W. LANDSBOROUGH,

*Member of the Legislative Council
of Queensland.*

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Voyage to Carpentaria.





VOYAGE TO CARPENTARIA.

CHAPTER I.

Voyage to Carpentaria.

Departure from Brisbane—Wreck of the *Firefly*—Riot and Destructiveness of the Crew—Landing of the Horses—Rescue by the *Victoria*.

ON the 24th of August, 1861, the brig *Firefly* was ready for sea. She was in all respects adequately equipped with stores and horses for the proposed expedition, besides being favoured with the protection of the colonial war-ship *Victoria*. On the 25th we bade adieu to Brisbane, and, filled with hopeful anticipations of success, directed our course towards our central starting-point, Albert River, Gulf of Carpentaria. The course chosen was that which is known as the "outside" passage through Torres Straits, in preference to the "inside" one—a choice which proved unfortunate; for not only were the horses thus unnecessarily tossed about, but also fresh supplies of water for them, whether from the shore or the *Victoria*, were inaccessible. The supply per day on board the *Firefly* amounted only to

five gallons per head, the insufficiency of which, for horses, confined on shipboard, was, on a subsequent occasion, demonstrated by the fact that they each drank, at one draught, as much as eight gallons. It cannot therefore appear surprising that our horses—on the condition of which, more than on anything else, we were dependent for success—did not thrive.

For the first eight days of the voyage the *Victoria* kept us in sight, and Captain Kirby, of the *Firefly*, received from time to time the requisite sailing and other instructions from Captain Norman, of the *Victoria*. But during the rough weather of Sunday, the 24th, the ships lost sight of each other. Captain Kirby, having succeeded in obtaining, on the following day, an almost momentary, though sufficient, sight of the sun, boldly made for the inside of the reefs. Between 11 and 12 a.m. we sighted Raine Island beacon, and in the course of the afternoon succeeded in getting within the reefs and into smooth water. We considered ourselves fortunate in having undoubtedly escaped serious dangers, as our ship was leaky and otherwise disabled, whilst the horses were greatly distressed. Our only loss was that of one of the best horses, which, from having had the sand washed from under his feet, lost his footing and got trampled to death by his companions.

It soon became evident that, either from misfortune or mismanagement, our refuge was a delusion and a snare; for, although Hardy's Island presented, on the lee side of any of them, apparently excellent facilities for anchorage, we cast anchor before having reached a sufficiently sheltered situation. The consequence was that the cable dragged, and that we were driven right on the lee shore, a position by no means the most comfortable in which to pass the night. On the following morning, the 4th, the cable snapped, and the brig grounded

broadside on the reef. As the waves presently broke over the ship, the masts were at once cut away, in order to ease her.

In positions of danger, it often happens that acts of heroism come from the most unexpected quarters: in our case no less a functionary than the cook bore off the palm. For, at a moment which might have been his last, and when we were preparing to swim for our lives, he appeared before us with his accustomed naval precision, and served coffee. As we anticipated a glorious drenching, it is to be hoped that the most cynical teetotaller will excuse our having qualified that beverage with a certain liquid of a more potent and less innocent nature. We then set vigorously to work in order to make the best of our misfortune; and, next to ourselves, it was of the utmost importance that we should rescue the expedition stores and horses, without damage or delay. As the smallest boat, on being lowered, was at once dashed in pieces, we were reduced to the solitary resource of the larger ship's boat, the launching of which required great care, no less on account of the floating spars and masts, than the violence of the breakers. The task of clearing away the obstructions was boldly and adroitly executed by a Dutchman, named Müller. He plunged into the surf, and, by dint of tugging and pushing, succeeded, with infinite difficulty, in freeing the drift, while we occupied ourselves with watering and baiting the horses. At length the ship's boat was securely lowered, and we landed in safety. At ebb tide we were glad to find that, provided the vessel would hold together, the water was sufficiently shallow to admit of the cargo being carried on shore.

Mr. Martin, the supercargo, and myself, immediately on landing, proceeded to the other side of the island, where we

had descried, on the previous evening, the masts of a ship. We hoped to procure assistance from her crew, but the ship proved to be a wreck. We came upon an abandoned camp, containing the following relics : The *Argus* newspaper of June 14th, a barrel of peas, fragments of paper bearing the names of the *Lady Kinnaird*, and of Captain Chorley, part of a child's dress, backs of turtles, large cockle-shells, &c. We subsequently learned that the wreck was that of the *Lady Kinnaird*, bound for India, with a cargo of horses. Having sprung a leak, she had run for this spot, where she remained afloat just long enough to allow of the passengers and crew landing.

On returning to our companions we found the crew busily engaged in carrying our stores on shore. Captain Kirby preferred not risking the ship's boat in that service, as it would in all probability have to be employed in the more essential one of transporting ourselves to the mainland. In the evening I went on board the *Firefly*, in order to see that the horses were as comfortable as the circumstances would allow. Mr. Campbell volunteered to remain beside them all night, but as some of the sailors had already broached the spirits, I was not justified in accepting an offer to do what I was myself not disposed to undertake.

I cannot here forbear recording that the events which followed the wreck of the *Firefly* were not an exception to the general rule in such misfortunes. The crew considered themselves freed from all engagements, legal or moral. Riot and drunkenness became the order of the day ; and not only did the officers not attempt to control the crew, but they actually encouraged insubordination by such expressions as that "*Jack was as good as his master*," that "*the cargo of a wreck*

belonged to any one who chose to take it ;” or by direct instigation, as, for example, “*There are twenty-two pairs of expedition boots : help yourselves. That will be a pair each for all hands, and a pair to spare.*” In short, I soon saw that if I did not bestir myself and my staff to rescue the horses, the work which I had undertaken would there and then end ingloriously.

Accordingly, on the afternoon of Thursday, the 5th, I hired the carpenter and Müller, for the sum of five pounds, to cut a hole in the ship’s side close to the water’s edge, in order to release the horses at low water. And after having found a good place on the island for watering the horses, I joined them with Messrs. Campbell and Martin, and my three native assistants. The only tools at our command were two adzes and two small tomahawks ; but my black-fellows plied the latter with so much dexterity, that we were not long in accomplishing our task. The following day was occupied in landing twenty-five of the horses ; and this we found to be a task of no ordinary difficulty. Although it was low water during the time so employed, we had to use every precaution to prevent the horses swimming out to sea. Some of them, in the first instance, got confused, and swam hopelessly here and there, till exhaustion compelled them to yield to the waves, which at length drifted them on shore. One, indeed, battled against wind and waves for above an hour, and finally succeeded in reaching the southern island, a mile distant, from which, however, he was afterwards recovered safe and sound. Of the whole number, four were trampled under foot, and all but killed.

It was lucky that we found on this insular desert sufficient grass and water, as the horses were thereby re-invigorated, in

compensation for their late hardships. This island, in fact, presents in an eminent degree, if I may be allowed the expression, the best conveniences for shipwreck : wood, water, shell and other fish abound. Add to these advantages, that at the period of our visit, the constant sea-breezes rendered the climate very enjoyable. It will probably not be long before these bounties of nature are appreciated and utilised by some enterprising settler.

On Saturday, the 7th, while engaged in attending to the four sickly horses, we were delighted to see the *Victoria* approaching. Captain Norman, on his arrival, having learnt that the *Firefly* was a wreck, and that the crew claimed the privileges of shipwrecked mariners, set vigorously to work to contrive the means of still making use of the *Firefly* for her original purpose. I was cheered by his hopeful view of the case, and my anxieties were entirely set at rest by his assurance that, should his efforts fail, he would undertake to convey my party and appurtenances, in the *Victoria*, to our destination.

Captain Norman's first task was the reduction of the mutinous crew to some kind of discipline—an essential step towards which was the instant destruction of the wines and spirits on board the hulk, and the re-establishment of the law of *meum* and *tuum*, by ordering the restoration of stolen property. Then, having lightened the brig as much as possible, he tried to pull her off, at flood tide, by means of the *Victoria*. After several attempts, which had proved futile, on account of the hulk having become firmly embedded in the reef, we were at length delighted by seeing her afloat.

While the horses were being re-embarked, and the fittings replaced, my companions were busily engaged in collecting a

stock of fodder. This was by no means easy, as we were unprovided with any implements but knives for cutting grass ; but in this kind of work my black assistants were remarkably handy. All the preliminary arrangements being made, we were again in motion ; and as I steamed along on board the *Victoria*, which towed the miserable hulk on which all my cares were centred, I was inspirited by the grateful, and happily not uncommon reflection, that “things might have been worse.” I did not overlook the debt of gratitude I owed to Captain Norman, not only for having traced us so cleverly, but also for having by his promptitude and vigour retrieved the fortunes of the expedition. Nor can I omit to record my thanks to the members of my party, each and all of whom behaved with endurance and self-possession, and, I may add, with strict integrity in moments of temptation.

CHAPTER II.

Voyage to Carpentaria (continued).

Post Office Island—Escape and Recovery of the *Firefly*—Bountiful Island—Catching Turtle—Bentinck and Sweer's Islands—Traces of Flinders and Establishment of Depôt on Sweer's Island.

THE next object of interest was Post Office Island—a name which requires a word of explanation. It is a small, bleak, and barren island, situated at the eastern entrance to Torres Straits; and, from its position, it has long been used by mariners as a place of call. In a dreary cave, a rough Log Book is preserved, in which they are expected to inscribe the name, port of departure, destination, and cargo of their ship. Well-provisioned ships are also expected to leave a supply of necessary stores, as a resource for others in distress. It is not much to the credit of civilised humanity that such stores are not unfrequently appropriated by crews not in distress. Still, this original and self-supporting postal institution subserves, on the whole, a useful purpose. For example, it was there that we learned the details of the wreck of the *Lady Kinnaird* on Hardy's Island.*

We anchored there for the night. When morning dawned, the ill-starred *Firefly* was nowhere to be seen. Taking advantage of the loosed tow-rope, she had broken away from her imperfect moorings, and had made for the open sea in the dead of the night. Being, however, descried vanishing in the distant horizon, the *Victoria* gave chase, and brought her back covered with dishonour.

* The proposed settlement at Cape York, selected by Sir George Bowen, will remedy the inconveniences alluded to.

We next called at Bountiful Island, in order to procure a supply of fresh food in the agreeable shape of turtles, in which that island abounds. In the course of the afternoon Captain Norman and I went on shore, and walked over the island. It is a sandy and altogether uninteresting place, frequented only by flocks of pigeons and sea fowls, some of which we shot. The first night, about a hundred turtles were caught in my absence; and though this was a sufficient supply, I remained on shore the following night in order to secure more, mainly with the view of learning the process of catching. A sailor, who was my companion, disgusted with his first tedious and unproductive watch, "turned in" early in the night; but, somewhat later, while sauntering along the beach, I observed that several had come ashore. Having roused the sailor, we were not long in securing twenty by the speedy and simple act of turning them on their backs.* So prolific is this archipelago in that delicious food that I wonder enterprising speculators have overlooked it. Preserved turtle would be a by no means unworthy accompaniment of the ordinary canister viands that are now used to vary the everlasting salt junk of earlier voyages and travels.

On the following day we reached Investigator Roads, situated between Bentinck and Sweer's Islands. These Roads afford excellent anchorage, and are distant about seventeen miles from the mouth of the Albert River. Bentinck Island is about thirty miles in circumference; Sweer's, only three: both are well grassed and wooded.

On our arrival, we found the coal tenders had been await-

* The aborigines of York Peninsula ingeniously catch the turtle by means of the common "sucker-polype." This they attach to a string, and allow to sink, when it customarily alights on the back of the first convenient turtle, which is then easily drawn to the surface.

ing us for some time. The masters had, it seems, spent the interval in visiting Albert River, with the hope of finding Burke's party. They had procured supplies of water from Bentinck Island, though apprehensive of danger from the natives.

In the afternoon, Captain Norman and I landed on Sweer's Island to reconnoitre, and more especially to discover the wells, sunk there by Flinders. We found the wells, but they were choked with sand. We also came upon a tree on which "Investigator" was carved, and the word was still quite legible, though cut so far back as 1802, probably by the hand of the unfortunate Flinders.* Captain Norman determined to repair the wells, and to form near them a depôt for his superfluous ship's stores. We then selected a place on the beach, within the tidal line, for forming an enclosure for the turtles. Further inland we found the grass of good quality, and fit for cutting, a discovery which pleased us both, as the sheep we had on board could now have the advantage of grazing, and my horses that of fresh fodder, in which we were running short. For all practical purposes, Sweer's was preferable to Bentinck Island: on the simple ground that the latter was inhabited by hostile blacks, while the former is only visited by them at distant intervals. Their means of transit consists, *not* of canoes, but of rude rafts formed from logs tied together with strings of plaited bark.

* Having spent several years in various laborious and important surveys, Flinders, the discoverer of Carpentaria, when on his return home, during the period of the Napoleonic wars, was unjustly detained for six years by the Governor of the Mauritius.

CHAPTER III.

Voyage to Carpentaria (continued).

Exploration of the Albert River—Kangaroo Point—Description of the River—Plains of Promise—Wood's Lake—Fitness of the Country for Farming Purposes—Return to the *Victoria*.

As the Albert River had not been surveyed since it was hurriedly ascended by Captain Stokes,* Captain Norman commissioned Lieutenant Woods to make a survey; to buoy the sand-banks at its mouth, and to endeavour to find a landing place for the horses. To assist him in the last-mentioned object, as well as to select a spot for a depôt with a view to my land operations, I accompanied him, along with my two blacks, Jemmy and Jacky.

We left the *Victoria* in one of her boats on the evening of September 13th, and arrived at the mouth of the Albert early in the morning. Here we found a bar which can be crossed by vessels of average draught, only at high water; but being composed of alluvial deposits, the bar is doubtless removable by dredging. The point on our left and on the right bank of the river, known as *Kangaroo Point*, would, from its position and elevation, prove a good site for a township: the further bank is low, and presents a dense mass of mangrove. We descried a dozen blacks who ran along the shore, and kept shouting to us as long as we were within hearing; but their language was unintelligible to Jemmy and Jacky.†

* In 1842 he found it navigable for thirteen miles, for vessels of thirteen feet draught, to within five miles of where the water is fresh.

† That is, considerably less intelligible to each other than the

The river has an unbroken fringe of mangrove for above two miles on both banks.* Beyond this, the banks are occasionally sloping, free from mangrove, and composed of stiff sand. At a distance of twenty miles from the estuary, the water was still fresh. The fringes of mangrove became scarce, and the ground rose from the river-level, displaying well grassed and sparsely timbered plains. We anchored at sunset, twenty-six miles from the mouth of the Albert, at the

Yorkshireman is to the Cockney. The aboriginal tongue is divided into a variety of dialects, some of which are so distinct from each other that they appear to the non-philological ear to have no affinity. Every tribe, whose hunting ground seldom exceeds thirty square miles, has its own peculiar vernacular. Blacks can, however, as a general rule, speak the dialects of neighbouring tribes; and they acquire this knowledge with remarkable ease. They also learn English with little difficulty, and, when acquired, it is often talked by natives of different tribes, when they meet. As with foreigners who profess a knowledge of English, they feel complimented by being addressed in our language. One of their greatest phonic obstacles is, the articulation of the letter *s*. They, therefore, naturally avoid words containing sibilant sounds; for example, for *horse* they prefer to say *yarraman*, and for *sheep*, monkey or jumbuck.

It should further be noted that, though Queen's English is spoken by a few with fair purity, the so-called "English" of the blacks is a jargon. This jargon is the ordinary medium of conversation between the native and the settler; and many of the less-informed settlers imagine all slang words to be genuine local, instead of anglicized corruptions of primitive, words, coined by now extinct tribes, perhaps at the period of the first colonisation.

The following is a colloquial sample of the hybrid tongue above alluded to:—

Settler.—When peeke bong putum yarraman belonging to mine alonga yarra yarra.

[At sunset, put my horse in the paddock.]

Native.—Yo-ai, me fetchum yarraman; an you give it flour, sugar-bag, chirt, an kabón fellow bacco, bel breakam.

[Yes; I will fetch the horse, and you shall give me some flour, sugar, a shirt, and a big fig (piece) of tobacco, not broken (whole).]

* The general character of the Carpentaria coast is low and alluvial, and presents from the sea-board the aspect of an extended plain. The tide is peculiar; it is irregular—occurring sometimes at intervals of twenty-four hours; and it rises as high as eighteen feet. The rivers, as in all flat countries, have a tendency to separate into different channels, forming deltas.

junction of Beame's Brook with the Albert. Within a hundred yards of the west bank, I found a water hole much more convenient for watering stock than the river, whose banks are here too steep for that purpose.

Next morning we continued our voyage, but at a distance of two miles, our progress was stopped by snags* which here abound. We therefore landed, and took a walk over the "Plains of Promise." Presently we surprised a black man and woman, both old and naked; the former vanished down the bank, and plunged into the river, the latter took refuge in a tree, where she pertinaciously remained in speechless terror. The channel of the river, at this point, was muddy, and so narrow that we contrived to cross over on the trunk of a tree, which the carpenter had felled for that purpose. The water was cool from being shaded by the pandanas, palms, and Leichhardt trees. We found no traces of exploring parties, but, as a possible guide to others, we marked several trees before returning to our boat—on reaching which, we dropped down the river a short distance, and anchored for the night over against the cliffs that are marked in the charts as being thirty feet high.

In the morning, I landed with Jemmy and Jacky, and proceeded north-westerly over well grassed and slightly timbered plains. A walk of two miles brought us to a narrow mere, which I named Wood's Lake. Aquatic birds were so plentiful here that Jacky killed, at one discharge of his gun, half a dozen whistling ducks and a large grey crane. Skirting the southern edge of the lake, we came to a clump of box and tea-trees. At this spot I marked a tree, reflecting, while so engaged, on the probability of this being ere long the chosen

* *Snags*, i.e., fallen trees or branches stuck fast in the river-bed.

site for the head-quarters of a sheep station, for which this district is, in all respects, admirably fitted.

On the following day we found ourselves again three miles above Kangaroo Point, without having met with any noteworthy incident, excepting a "turn-out" of about twenty blacks, who surveyed our progress with looks of mingled wonder and apprehension.

On going ashore, we started on the wing two large bustards and some wallabies.* We also saw large quantities of small, white cockatoos, as well as rose-coloured ones, which in New South Wales and the settled country of Queensland are only to be found inland. On the upper part of the river, we observed three crocodiles, but they were glad to get out of our way with all despatch. Neither mosquitoes nor sand flies troubled us at night, and our repose was undisturbed, except by a sudden panic occasioned by the nightmare of one of our companions. The thermometer ranged from 84° to 94° . This is altogether a most promising field for the sheep farmer, and, with its slightly timbered and well grassed downs and plains, together with its superior water communication, it can stand a favourable comparison with what has been proved to be good country in the southern portions of Australia. On the score of timber for building purposes, the smallness of the trees is certainly a drawback, but this is a disadvantage of easy cure† and one which is fully compensated for by the direct benefit accruing to the grazier from the deficiency in question. Then as to the more slowly advancing agriculturist,

* A small kind of Kangaroo.

† The cabbage palm, which abounds higher up the Albert, might temporarily answer the building requirements of the pioneer: later, of course, importation would do the rest. In fact, wire fencing, together with brick or mud huts, comprise the essential wants of the Squatter in the way of building.

treading on the heels of the retreating Squatter; the unlimited plains of rich soil, easily yielding to the plough, which stretch from either bank of the Albert, form a country peculiarly suitable for tillage. The Summer rains, speaking roughly from my own experience, are amply sufficient for the growth of cereals, while other objects of culture which require long continued moisture might be conveniently developed by means of the Egyptian system of irrigation.

On our arrival at the *Victoria*, we found that the coal tenders had been unloaded, water procured from Sweer's Island out of Flinders Well, and the enclosure for the turtles constructed. With regard to that epicurean dainty, I may add that we were all by this time heartily tired of it, and that Jack Tar would have none of it. The eggs, however, continued to be relished.

CHAPTER IV.

Voyage to Carpentaria (continued).

Absence of Burke's Tracks on the Albert, and Proposed Journey to Central Mount Stuart—Personal Preference for a Different Route—The *Firefly* Converted into a Dépôt—Voyage up the Albert—Rencontre with Natives—Landing the Horses—Visit from the Natives—The Nicholson River—Excursion to Beame's Brook Confluence—Condition of the Horses.

It is necessary to mention here that the Albert had, from having been so well made known by Stokes, become the appointed or understood *rendez-vous* for exploring parties; and that, therefore, traces of Burke would probably be found here, in case he had succeeded in penetrating so far north.* Ignorant as I then was of the catastrophe that had befallen Burke's party, I was of course grievously disappointed on finding no indications of their having been here. I therefore proceeded to put into execution the instructions of the Royal Society of Melbourne to make for Central Mount Stuart, in order to see if Burke had selected that route with the design of completing Mr. Stuart's journey, which, as is now well known, he had *not*. I may here state that the track has since been completed by Mr. Stuart himself, *i.e.*, in 1862. It was doubtless unfortunate that Mr. Walker had not arrived from his overland journey from Rockhampton, as the news he subsequently brought, of having fallen on Burke's track to the east of the Albert, would have rendered my expedition to the south-west unnecessary; but neither could I anticipate such

* It may be noted that Burke reached the Flinders, fifty miles eastward from the Albert.

news, nor longer delay my departure, which the wreck of the *Firefly* had already too long protracted.

Bound, as I was, by the instructions of the Royal Society of Melbourne, I had emphatically no business to be influenced by my own opinion of them ; still, there can be no harm in here stating that both Mr. Gregory and myself considered that the most probable route for finding traces of Burke was in a south-easterly direction from the Albert—namely, to skirt the *supposed* desert* of Central Australia, and make for the head of Cooper's Creek, thence following its course to Burke's starting point. But as I could not, in the first instance, at least, execute this plan, my wish was, after reaching Mount Stuart and possibly failing to find there traces of Burke—to make direct for Cooper's Creek,† instead of returning to the Albert. Captain Norman, however, considered it better for me to return, and he agreed to wait for me ninety days. This being the final decision, it remained to fix a depôt on the Albert, my own project of a south-easterly expedition being, for the present, left in abeyance.‡

It was determined to transfer the hulk of the *Firefly* twenty miles up the Albert, and to use it as the depôt. The *Firefly* was accordingly towed by the *Victoria* to the mouth of the Albert, and, though the river was navigable even for the *Victoria* beyond the proposed depôt, it was decided that the *Firefly* should work her own way to her last home. With Lieutenant Woods as commander, and myself on board, the

* The reader should be informed that even so late as 1861, the best charts were a complete blank between the tidal rise of the Albert and Stuart's farthest in 1845, being a distance of 400 miles north and south, as the crow flies.

† Burke's starting point, and where he had his depôt.

‡ Subsequently, as the sequel will show, carried out by me.

Firefly accordingly stood in for the *Albert* at flood-tide on the evening of the 14th of October. On account of the winding channel and the awkwardness of our craft, it was found more convenient to run the *Firefly* over the bar; and, though drawing nine feet, she accomplished her task. On reaching Norman's group of Islands, ten miles up the river, it became necessary, from our small supply of water, to decide respecting the landing of the horses. Three parties accordingly started to reconnoitre the water resources of the adjacent country. My party, comprising Mr. Bourne, Mr. Hennie, the botanist, and two native troopers, went eastward six miles. The first half of our journey lay over hard, mud flats, which are flooded at high tide; the remainder was over rich plains, covered with the best grasses; and the abundance of salty herbage, jointly with their general aspect, reminded us of the Murrumbidgee plains. The higher parts were thickly grassed and sparsely wooded with box, white gum, cotton, and other trees. We found water-holes in abundance, some containing fresh, others brackish water. Of the last quality was the north-easterly one, which I called Lake Müller.

Early in our journey, we observed several blacks, at different points on the plains. Charlie, one of my black assistants, gave chase to three girls, who fled to their camp, where we subsequently overtook them. We asked them, by signs, for the direction of the nearest water-hole, and they indicated it by pointing. Terrified as they were, they could not restrain themselves from examining our articles of dress, which were doubtless an entirely new object to their eyes.

On returning to the *Firefly*, we found that the other two parties had been equally successful in finding water-holes on the western bank, and as one of these, named Frost's Ponds,

four miles up, was the most convenient, we walked the horses on shore and drove them thither. After a few days' recruiting, they were forwarded to Moore's Ponds, situated near the depôt. These ponds had been discovered by a sporting party, on the twentieth, and the discovery was certainly of more consequence than the meagre bagful of game, with which they returned, although they had seen several wallabies on the plains, and crowds of ducks and other aquatic birds at the water-holes on their route.

On the twenty-fourth, a party of blacks voluntarily paid us a visit; we gave them presents, and their gratitude was exhibited in the theft of certain clothes that lay in their way. Lieutenant Woods gave them a lecture on the laws of property, but, as he laboured under the same disadvantage as Goldsmith when he went to teach English to the Dutch, namely, an entire ignorance of the language of his hearers, I fear their notions of morality remained as ingenuous as before. When I see poor blacks I feel sorely tempted to make them presents of clothes, tomahawks and the like; but so willing is indigent black, as well as white, humanity to be pauperized, that I have always found that "*the more they get, the more they want,*" and that the less they get, the less do they seek our company, and the less likely therefore are we to come into hostile collision with them. Hearing from Mr. Campbell that, in one of his excursions, he had come upon a large river running parallel to the Albert, I retraced the track in order to see whether or not it was the Nicholson that he alluded to. The result was as I expected. It was not so broad as the Albert, and the water was not so brackish. The space intervening between the right bank of the Nicholson and the bend of the Albert, near Wood's Ponds, was a stretch of seven miles of a finely grassed plain. An

enclosure for sheep or cattle might here be easily formed by running a fence across from the Albert to the Nicholson.

When the *Firefly* had been securely moored, Captain Norman came and appointed a guard for the protection of the depôt. He had the ulterior design of witnessing my departure, and of awaiting Mr. Walker's arrival. Before leaving, I accompanied him in a boating excursion as far as the junction of Beame's Brook with the Albert. There we found trees marked both by Mr. Gregory and Captain Chimmo, on the occasion when the latter went to meet the former in his expedition of 1856.

Having marked several trees* for Mr. Walker's guidance towards the depôt, we hastened back. The horses were now shod with all despatch: while this was being done, I was equally glad and surprised to find that they were already in such excellent working condition as to allow of our immediate departure for Mount Stuart. Even two invalids—so weak that on shipboard they had to be supported by slings—were fit for work; and, indeed, all of them were so remarkably improved since their landing that I was impressed with the conviction that there are few parts on any other sea-board of Australia where three months would have, in a similar measure, sufficed to recruit them. This is excellent testimony to the richness of the pasturage and the fitness of this district for rearing horses for the Indian Market, which has the advantage of being three weeks sail nearer than Sydney.

* The importance of marking trees properly cannot be overrated. The marks should be made only on strong, healthy trees, and at conspicuous points; and the directions should be unmistakeably clear and accurate.

Expedition
Towards
Central Mount Stuart.

CHAPTER V.

Expedition to Central Mount Stuart.

Preparatory Drill—The Attempt to Start—The Start—Arrival at Beame's Brook Junction—Discovery of the River Gregory—Rencontre with Blacks—Character of the Gregory—Our Daily Work—My Sextant—Fording the Gregory.

As we had appointed the following day for the start, I devoted the fifteenth of November to drilling the men* into the art of packing the horses and to accustoming the horses themselves to being packed,—both operations being less easy than the uninitiated would imagine. The equal adjustment of the weights, the strength of the straps and security of the fastenings—not as they are presented immediately to the eye, but mediately through every possible variety of jogging and jolting—are points which experience alone can approximately anticipate. The result of to-day's experiment was instructive in a variety of ways.

Next day, the corresponding work was of a more earnest character and attended with practical drawbacks. The horses being still new to the sensation of packs, and finding them-

* My party consisted of Messrs. Campbell and Allison, and two black assistants, Jemmy and Fisherman. Mr. Bourne and Gleeson, along with two natives, remained at the depôt. I should have gladly taken two additional hands, but this was impossible on account of the insufficiency of the horses,—seven out of thirty having died from the unusual hardships of the voyage.

I should also mention, that I had calculated on a promise made to me at Brisbane, to have the astronomical services of Lieutenant Woods, who had fully equipped himself for his duties. Captain Allison and myself managed as best we could with our extremely imperfect apparatus: our shortcomings in a geographical point of view will, therefore, I hope, be rightly understood.

selves again encumbered with unexpected and unintelligible burdens, availed themselves of their freedom and dispersed to and fro in picturesque confusion. Those that were adepts at that noted equine manœuvre, "buck-jumping," applied it with effect; for many of the packs presently became either "conspicuous by their absence" or hung dangling and swaying about, to the increased confusion and dismay of their bearers. The work of collecting the horses, and repairing the damages, delayed our departure till the afternoon.

Provisions,* packs, horses, and men, being at length in readiness, we made a final start; but failed to make remarkably rapid progress, on account, partly of the continued restiveness of the horses, partly of the exhibition of a similar quality on the part of the men; occasioned, in the latter instance, by the novelty of the work, in combination with that jollity which is the natural consequence of festive adieus.

Towards evening, a mob of the wilder pack horses were descried disappearing in the distance, though fortunately in the right direction. As darkness was setting in, we were obliged to follow their tracks with all speed, and I, meanwhile, despatched one of my black boys ahead. He, in turn, proved no less difficult to find, but by dint of constant coo-y-ing,† we at length succeeded in rejoining each other. On mustering

* Supplies of food for five men for ninety days.

Flour	450 lbs.
Meat	226 do.
Sugar	100 do.
Tea	14 do.
Rum	5 gallons.

We had also a small supply of medicine and lime juice; a pocket sextant, thermometer, and compass. We also carried an assortment of tools, firearms, and ammunition. The horses amounted to twenty-three.

† *Coo-oo-oo-ŷ* is a shrill treble sound much used in the bush by persons wishful to find each other. On a still night, it will travel a couple of miles, and it is thus highly serviceable to lost or benighted travellers.

the horses, we were glad to find that none were missing ; and, on presently coming to a lagoon, we pitched our first camp.*

After a refreshing sleep, we were astir at daylight. Breakfast over, Jemmy and Fisherman brought up the horses, while I repaired saddle straps and branded trees with my initials.† The labours of the previous day had sobered down the horses, and we drove them on Fisherman's guiding track without difficulty. A few hours' ride over a fine, undulating country

* As all the operations of encamping are almost uniformly alike, I shall here detail them, in order to avoid the monotony of repetition :—

1. The first thing is to *hobble* the horses, that is, to fetter their forelegs with a chain, attached to the fetlocks by two straps. But as you must catch your hare before you cook it, so must you first catch the horses, which is not by any means easy when they are wild. This is done by one or two horsemen surrounding and driving them into a group or, so called, "mob." They are then haltered and led singly to the proposed encampment; there unloaded, and each separate pack covered with the saddle so as to be convenient for the start.

2. Fires are then lit, and water is carried in canvas bags, from the nearest water hole.

3. The rations for the next twenty-four hours are then served out by a specially appointed person, and, in our case, these consisted of 1 lb. of flour, $\frac{1}{2}$ lb. of meat, with a small quantity of tea, sugar, rum, and lime-juice.

4. As to cooking, each man boils a quart of water in a tin can. When the water boils, the tea is thrown in and allowed to stand a short time with the drinking-tin on the top: so made, tea is considered by bushmen highly palatable. A large quantity of charcoal is then made in preparation for the baking of the "damper," which consists of cakes or bannocks of flour, salt and water. The dried meat is boiled in tin pots, colonially termed "billies." The social pipe finishes the day's work.

5. While the cooking is going on, the tents are being erected on a suitable piece of ground, if possible, previously trenched. The bedding consists of fresh cut grass covered with oilcloth and blankets. As the climate of Australia is so favourable for camping out, tents are sometimes an unnecessary luxury. I frequently dispensed with their use, although, on all sufficiently convenient opportunities, I took care to have them erected, both on account of possible rain and for the sake of discipline. On all occasions we kept our usual watches, except when camping after dark, there being then less danger from the blacks.

† I subsequently used the tomahawk instead of the brand, as the latter consumed so much time. The mark was the Government broad arrow and L.—V. and Q. E. (Victoria and Queensland Expedition), together with the number of the camp and the date.

brought us to Beame's Brook junction with the Albert, where a boat was in waiting to convey letters to Captain Norman. We waited here a day for two additional horses which were to be forwarded from the depôt.

Next morning (November 18th), we rode over the entirely unexplored valley of Beame's Brook, leaving which on our left, we struck through the thickly wooded margin of the stream and rode four miles over plains, sparingly dotted, on the lower ground, with clumps of trees. Here we touched upon a bend of Beame's Brook, which, though here above the tidal influence, is, nevertheless, a copious stream confined in a narrow channel. Here we halted for the purpose of marking trees, and for refreshments—the latter consisting chiefly of a bud procured from one of the tall cabbage-tree palms which adorn the banks. This bud makes an excellent salad and was a sufficient repast for our party of five.* Our course now lay over a continuation of the above mentioned grassy plains, on which we noticed various saline herbs, so pleasing to the Squatter's eye. Having been now five hours in the saddle, we were on the look-out for a camping ground, There being indications of a river-course to the north-west, we went in that direction for about a mile, when we came upon a tributary of the Nicholson, which I named the Gregory.† At this point it was parted into four channels, the main one running strong and clear—a by no means common feature of Australian rivers during the dry season. The banks were shaded by the drooping tea-tree,‡ like a gigantic weeping

* Pigweed (*Portulaca*) is a good substitute, and frequently served us as such.

† The Surveyor-General of Queensland, so deservedly distinguished as one of the first and best of Australian Explorers.

‡ *Tea-tree*, a variety of *mela-leuca*.

willow, and the swamp-oak,* while the higher parts were crowned with flooded box.†

On the following morning, while engaged in packing the horses, we observed a number of blacks watching our movements from behind trees on the further bank. We approached as near as the river would allow us and addressed them, through Jemmy and Fisherman, but without being understood. However, they appeared disposed to be friendly.

Following the right bank about two miles, we reached a point situated at a bend of the river, which, from its position and elevation, would be a good site for a stock station. As the Gregory here crossed our proper route which lay to the south-west, and as it was extremely probable that we should find a feeder on the other side, the ascent of which would answer our purpose, I was anxious to ford the river. But the approach was so boggy as to be inaccessible to the heavily laden pack horses. Soon, however, I was agreeably disappointed by the course of the river being more from the south-west, and this held good for a distance of thirteen miles, when we pitched our fourth camp at the junction of a dry water course with the Gregory.

In the course of our journey, we had kept at some distance from the river bank, only occasionally sighting it while cutting off angles. Such glimpses sometimes displayed fine reaches ; in fact, the body of water was so copious, that I could then attribute the cause only to extensive rains in the interior.

Accordingly, until I ascertained the source to be local springs at the base of the ranges that form the northern watershed‡

* *Swamp-oak*, a variety of *casuarina*.

† *Flooded-box*, a variety of the eucalyptus.

‡ Also the southern, as the sequel will show. The geographer's attention is called to this entirely unexpected feature of the Australian Continent.

of the Continent, I was buoyed up with the hope of being able to penetrate the country with ease. This district was of the same luxuriant description as that previously traversed, namely, undulating, well grassed, and thinly wooded plains, in the rear, and thickly wooded, alluvial flats, facing the river. The low ground abounded in saline herbage, which our horses relished extremely.

Wednesday, November 20th.—We were again in motion at eight o'clock. After continuing to skirt the right bank of the Gregory, we found it now trending away from our route ; and we were accordingly anxious, as before, to cross. But for a distance of thirteen miles, the margin of the river was so boggy, and the stream so deep that we had again to encamp without attaining our object. So inaccessible was the river that we could not water the horses ; but the grass being succulent, apparently from recent showers, our four-footed companions made shift without it. As an addition to our supper we procured two cabbage palm buds ; on this occasion we boiled them, and in that state they reminded us of that most delicious of vegetables, asparagus.

By this time, we had discovered that the toils of travelling, jointly with that of night watching, were altogether too fatiguing and harassing to allow of any members of my slender party devoting their attention to fishing and shooting. As regards those toils, it is sufficient to state that we were awake, and more or less in activity, from dawn till dark ; and that Mr. Campbell, Captain Allison, and myself, alternated the watches after 10 p.m.—up to which hour the black assistants remained on duty.

The mirrors of my sextant were so much injured during the shipwreck at Hardy's Island, that the instrument was

useless for observation of the stars. The sun might have been available in winter, but at this season, his position was too vertical to allow of his meridian altitude being taken by means of an artificial horizon. This drawback vexed me exceedingly, and I was therefore much relieved by Captain Allison's suggestion to use the plain as a horizon.

The moistness of our present encampment brought such a host of mosquitoes into life, that sleep was next to impossible. We accordingly started at early dawn, and, after riding five miles, the river began to assume a new character : the channel became broader, and the bed gravelly. Here, therefore, we resolved to cross. We found the western bank so boggy as to require thick layers of grass to be strewn at the more treacherous parts to prevent the horses from sinking. This side of the river was lined with pandanus, with which I became more intimately acquainted than desirable, for, while leading over a restive horse, I stumbled backwards amidst the formidable prickles of that plant, with no better protection than my shirt.*

* At our crossing point we marked a tree on the right bank L.+C. the + being the hieroglyphic for "crossed here."

CHAPTER VI.

Expedition towards Mount Stuart (continued).

Flora of the Gregory—Macadam Creek—Return to the Gregory—The Character of the Country—Pack—Saddles—Rencontre with Natives—Character of the Gregory—Suicide of a Horse—Mount Kay and Stawell Creek—The O'Shannasseys—Source of the Lower Gregory.

In the hope of discovering a water-course more in our direction,* we diverged to the right a distance of six miles, but without result. Finding we were still in sight of the luxuriant foliage that marked the course of the Gregory, we returned to it, and encamped. In addition to the cabbage palm, tea tree, and pandanus, previously mentioned as fringing the river, I noticed the beautiful broad-leaved *Leichhardt*; while the *bauhinia*,† white cedar,‡ and bloodwood,§ dotted the plains. At the camp we also found marjoram, which forms a good substitute for tea. A ride of three miles, next morning, brought us to a dried-up tributary of the Gregory, which I named the Macadam. In order to see whether or not

* It will be observed that my almost invariable plan of exploring country is, by following water courses, whether down or up, according to my direction. In Australia the advantage lies in being thereby tolerably secure of water, and in any country the plan is undoubtedly the best, from a geographical point of view. In doing so, I arrogate no merit to myself further than that of following a traditional practice, originated by such men as Mitchell and Leichhardt. An incidental, but extremely important advantage is, that such tracks are easily traced. This being the understood method of modern exploration, I did not for a moment imagine that Burke had not adopted it.

† *Bauhinia*, a bushy tree with a large white flower, like that of the Sweet Briar.

‡ *White Cedar*, or Australian lilac (*melia Australis*) a very ornamental tree, and one of the few deciduous trees of this Continent.

§ *Bloodwood*, of the Eucalyptus class, secreting gum; hence the name.

it led our way, we ascended its rugged, stony channel four miles and a half, where we found a water-hole. Difficult and uninteresting as this new route proved to be, this must not be regarded as a bad criterion of the surrounding country ; for in all the southern parts of Australia, the best grazing ground often skirts creeks of a similar description.*

During the day, the heat had been so oppressive, and we now found the water so tepid, and, from being frequented by ducks and other birds, so offensive, that we anticipated a wretched encampment. But later in the day a refreshing breeze braced and enlivened us ; and our better humour was further confirmed by the addition to our evening meal of several ducks and rose-cockatoos, and abundance of little figs plucked from a shady clump of trees hard by.

Next morning, after a ride of four and a half miles, with eyes strained on the look out for water, we came upon a remarkably fine reach, three hundred by forty yards in extent, and fenced both above and below by transverse dykes of whitish basalt. Having watered the horses, and enjoyed a bath, we continued to ascend the Macadam till we came in view of a range of hills ; and, with the object partly of feasting my eyes on this pleasing variation of the landscape, partly of sketching the outlines and taking the bearings of the hills, I rode out into the plains and made a considerable *détour* before rejoining my party, who meanwhile plodded their weary way up the creek, vainly trying to find another water-hole. Impatient of our thirst, we were compelled to broach the leathern bottles, the newness of which had tainted and discoloured the water ; but we drank it with eagerness.

* In the south, such a creek as the Macadam is termed a *billy-bonn*, from the circumstance of the water carrier returning from it with his pitcher (*billy*) empty (*bong*, literally *dead*).

Heartily disgusted with the Macadam, we turned our backs upon it, and made for our old friend, the Gregory, and, to our great surprise and delight, a short ride brought us to its hospitable banks. The Gregory, at this point, was a quarter of a mile wide, running strong in two channels, the intervening bar being covered with the usual flora. This is, indeed, the finest looking inland river I have seen in Australia, watering rich plains, sufficiently sparsely wooded for all pastoral purposes. Since leaving the depôt the country has been uniformly qualified for carrying sheep, except perhaps during the extremes of wet and drought. Nevertheless, parched as the old grass was at the period of my visit, my horses flourished on it as well as if they had been stable fed. This grass was at places three feet high, and patches of green young grass clothed the river side.

The following day, being Sunday, we claimed as a day of rest for man and beast; and, by way of treat, indulged in such luxuries as our humble stores and the adjoining cabbage palms afforded.*

Monday, November 25th.—Early in our start this morning we had to halt for the purpose of adjusting a pack saddle which had already given us constant annoyance. All the others were fortunately constructed on Gregory's principle.† A ride of three miles brought us to an *outlet* of the Gregory, which we guessed, on good grounds, to be the Macadam, the

* Captain Allison here made a traverse table of our course, by which we were 55 geographical miles south, and 25 west from camp 2; and in latitude $80^{\circ} 45'$, longitude $39^{\circ} 11'$. The thermometer stood at 90° (Fahr.), at 7 a.m. and at 103° , at noon.

† The following description of Gregory's principle written by Mr. Baine's for Galton's *Art of Travel* will be read with interest:—

“The pack saddles were made after a model by Mr. Gregory, and are the best I have yet seen. Two boards of light wood are connected by bows of iron, $1\frac{1}{2}$ inch wide and $\frac{1}{4}$ inch thick, with hooks inserted in

partial upward tracing of which from a point further down the Gregory had, on the previous Saturday, led us so close to the main river. Doubtless, had we continued to follow the Macadam, we should have emerged on the Gregory at this point. If so, the Macadam must be one of those subordinate water-courses, peculiar to level countries, which, especially in seasons of floods, diverge from a surcharged river, and after making a circuitous excursion inland, return at some point lower down to their parent stream.*

either side, for the pack-bags to hook on to. The straps for the breasting, breechings, and girths, were screwed to the boards; the crupper passed through a ring on the after bow; and a light pad, (which could easily be taken out to be restuffed) was secured by small thongs, passed through holes in the ends of the boards. We had two girths, which crossed each other under the horse. (In unloading, the neck strap is unbuckled on the near side, also the breasting and girths: and the whole is drawn off behind.)

"The pack-bags were made of one width of canvas, turned so as to have no seam in the bottom. Pear-shaped pieces were sewn in, to form ends, and rope was stitched along the seams, having eyes above, by which the bag was hung upon the hooks. The flour-bags were made of canvas, of the usual width, with a round bottom stitched into them. The mouth was sewn up when full, and an oiled bag of the same size drawn over it.

"When all our horses were saddled, the word "on packs" was given. Dr. Mueller and I used to work together, and had our packs laid out in pairs; so that, when each horse was led between his bags, we hooked them on at the same moment. When we halted, we laid the bags on a couple of poles, to keep them from the ground.

"The bags sometimes came off, when we were travelling, but it was generally easy to catch the horse and reload him. When a horse rolled over, or fell in a river, it was rather an advantage than otherwise to get clear of them. Our water-proof bags were of leather, lined with water-proof cloth, just large enough to fill one of the canvas pack bags. They had a brass neck with a worm inside, in which we screwed a plug of soft wood. (There was rarely, if ever, occasion to use them.) Each pair of bags was carefully balanced, one against the other, that the horses might not be unequally loaded. The average weight of stores carried in each bag was 75 lbs., making a load (at starting) of 150 lbs., exclusive of bags, packages, or saddling. Bells were attached to the necks of the horses most apt to stray, but the clappers were tied up with a piece of thong, to keep them quiet on the march, and were loosened at night so that the sound might guide us in searching for them next morning."

* This "ana-branch," as it is colonially termed, is a hydrographic

Separating from my party, I ascended a hill to view the country ; and, to my chagrin, it presented to the eye, as far as I could see, a barren and parched surface. On overtaking my companions, I found them in intercourse with a group of blacks—the second we had seen. They were composed of three ugly black women and six children.

As before, we could extract no information from them ; and they were so terrified that they kept close to the edge of the water. On presenting a red gravat to one of them her fears were effectually appeased, in confirmation of the truth of Shakespeare's maxim :—

Win her with gifts :
For presents in their silent kind, more sure
Than words, do win a woman's mind.

Indeed she became so affectionate to one of the party that she wished to mount behind him on horseback : but her proffered advances were ungallantly rejected. I had frequently cause to regret our refusal, as her knowledge of the surrounding

feature, which is calculated to increase the available space of a dry grazing country to the extent of two thirds.

This takes for granted that the Squatter is acquainted with the most approved, though by no means the most general, method of locating his Shepherd's huts. That method consists in pitching the huts, *not* on the margin of a river, but three miles *inland* : for, as sheep do not require to be watered daily and as they can easily travel six miles per day, they can be taken, say on Monday from the huts to the river and back ; and on the Tuesday from the huts three miles inland and home again. In accordance with this plan, it must be observed that, instead of three, *six* miles of country can be utilized. Of course the same principle is applicable to the other side of the river. But what I wish to point out is, the remarkable advantage of an ana-branch running generally parallel, say 12 miles, to the main stream. A second row of Shepherd's huts can then be located, as above, three miles from the branch, and a third row on the other side of it. This gives an increase of 12 miles of available grass country, or two thirds of the whole, or a half of the whole extent of 24 miles, in case the opposite bank of the main river is open to use. In short, a good ana-branch is, in all its practical aspects, equivalent to the addition of a second river or that of artificial wells and dams—always great consumers of capital.

country would have proved of infinite service to us in a variety of intricate and perplexing positions.

The river along our route was now closely confined by hills ; the water-holes were deep and long, and the dry parts of the channel were luxuriant with palms and other kindred plants. The grass on these places, though rank, was preferable to that of the banks, where it was quite burnt up. We encamped after a ride of twelve miles.

Next morning, after a short excursion on the hills, I rejoined my party *en route*. The river continued to present similar physical aspects to those of the previous day. Its rugged and bold embankments will show to advantage during the floods. All of my party agreed that the current bore every indication of having a constant flow ; and at a place where we bathed, it was so strong as to carry us off our feet. It is, however, generally fordable over the dykes which dam the water holes.

November 27.—Ginger, an old black horse, was found missing. At length he was found floating down the stream. Alas, poor Ginger ! he must have been born under an unlucky star : during the voyage he was so kicked and cuffed by his friends that his features were stamped with melancholy ; and his general air betokened a wretchedness that foreshadowed a premature and violent end.

After travelling about eight miles, our path was blocked up by a basaltic hill, which I named Mount Kay. We fetched a compass round it, and, before striking the Gregory again, we crossed a small creek coming from the north-west, which I called the Stawell. On presently arriving at a tolerably comfortable spot for encamping, a halt was called. The country in this district closely resembles the gold bearing

districts of the south, and the geological structure is also quartzose and slaty. We had made but little way during this journey, as the country was hilly and broken up—only occasionally varied by grassy plots, sometimes interspersed with Kangaroo grass*—the first we had observed. We also noticed reeds growing in Stawell Creek, and, near our camp, patches of *Triodia* or *Spinifex*,† together with bloodwood and marjoram in abundance. On one of the neighbouring ranges, we saw two small natural caves resembling cairns.

November 2.—Having yesterday observed nearly opposite Mount Kay the embouchure of a large river on the right bank of the Gregory, I resolved to go over and examine it. After a short delay, occasioned by marking trees and shoeing a horse, I started in company with Fisherman, leaving the rest of the party to continue the journey. On fording the river, we attempted to make a “short cut” across a range of hills. But the ground was so rough that after wasting a good deal of time, we returned to the Gregory, which we followed down till we came to the confluence in question. I named this first-class tributary the O’Shannassey,‡ a range of hills that were conspicuous on the right bank, I called Smith’s ranges. At the angle by which we approached the junction, the ground is low and so densely wooded that we had to dis-

* Kangaroo grass, though of itself possessing excellent properties, is so certain an index of humid soil—which is, on the whole, unfavourable to sheep—that I cannot agree with many squatters in their high estimate of country on which it is found. As an illustration: this grass flourishes along the sea-board of New South Wales and Queensland, and it is well known that sheep do not fatten so well in these localities as on comparatively arid inland plains.

† *Triodia* or *Spinifex*, or porcupine grass, is the worst variety of grass to be found in Australia. It is so harsh that sheep will not eat it, except when it has just sprung up, after having been burnt. It sometimes overruns good country to such extent as to render the latter almost useless.

‡ Then Prime Minister of Victoria.

mount and lead our horses. The trees were chiefly of the fig variety, and inhabited by flying foxes which hung suspended from the branches or kept flitting to and fro. The stream itself, though not equal in point of size, had, like the Gregory, an obviously constant flow ; possibly it drains a larger area of country, and certainly its flood-marks were higher than those of the Gregory. The bottom of the channel was incrustated with a thick, whitish, mineral sediment. Having marked the most conspicuous trees, we hastened to rejoin our companions. But, just beyond our old encampment, we were benighted, and had to pass the night in a miserable, barren gully, fatigued and supperless. Nor was my repose improved by the sting of some reptile, by which I was suddenly awoken.

At 5.40. a.m. we were again under weigh, hunger accelerating our movements. We noticed on the right bank the mouths of two creeks—named respectively the Verdon and Balfour. We now passed through a rocky gorge, but we found an easy path along the margin of the channel which the floods had smoothed. A ride of six miles at length brought us to Camp 16, which Mr. Campbell had pitched a quarter of a mile up a tributary of the Gregory, named Haine's Creek. The horses were comparatively well foddered on the grassy plots of the channel. The adjoining country consisted of bare and abrupt ranges of basalt.

Next morning we followed up the Gregory, presently arrived at what I may style the source of the *Lower* Gregory. For, although we here found rapids with about six feet fall of water creating a stream powerful enough to turn a large mill wheel, the channel immediately beyond was all but dry. This surprised and, so far as my journey was concerned, disappointed me. It was now made apparent that the river, whose con-

tinuous and voluminous flow we had been thus far admiring, did not, after all, owe its origin to rains in the interior, but to copious local springs. This is, of course, the best practical guarantee of the permanence of the current from this point; but, what I propose to style, the *Upper Gregory* partakes of the character of Australian rivers in general, viz., water-courses dependent on the rainy season and therefore inconstant and subject to the extremes of flood and drought. I may add that the state of the banks gave no evidence of rain having fallen and that we carefully tested the continuity of the two channels by crossing the dry bed of *Upper Gregory* and returning to the rapids by the other bank.*

We observed a column of basaltic rock about forty feet high, which I called Campbell's Tower. Although the country was parched, kangaroos were numerous. While making these examinations, Captain Allison occupied himself shoeing the horses in an extemporé shed constructed of palm leaves; and he performed his work with his usual ingenuity.

* That such precautions in arriving at a geographical decision are necessary, is proved by our own subsequent mistake of Beame's Brook effluent for the continuation of the *Gregory*. (See page 59.)

CHAPTER VII.

Expedition towards Mount Stuart (*continued*).

Ascent of the Upper Gregory—Reconnoitring for Water—Barkley Table-land—Shooting a Kangaroo—Return to Camp—Renewed Search for Water—Return from a Bootless Errand—Herbert Creek—Return to Camp.

Tuesday, December 3.—Continuing to follow the Upper Gregory, we rode sometimes on this, sometimes on that, side of the channel, in a westerly and south-westerly direction. There was now no difficulty in crossing and recrossing, as the channel was dry, excepting a few isolated water-holes. Basaltic ridges fenced our path: they were sparsely dotted with stunted bloodwood, and over-run with triodia grass. In the channel itself, the grass was coarse, and the herbage poor; and in exchange for the rich *flora* of the lower Gregory, we had nothing but the comparatively uninteresting gum tree. But what was a real, practical drawback, the absence of water impressed itself upon us more and more forcibly at every step. At length, however, we stumbled upon a small supply, evidently the product of a recent thunderstorm, and accordingly we encamped.

Next day, our prospects in regard to water were so cheerless, that I considered it prudent to call a halt; for, as the sequel will shew, it was my rigorous custom to make some reservoir, so to speak, the base of my operations, in order to avoid the responsibility of launching my party on ground which afforded no definite guarantee of the existence of water. Accordingly Fisherman and I advanced ahead to

reconnoitre, but after a long and fruitless search, were compelled to return. I was additionally disappointed on learning that Jemmy had just returned from a similar bootless errand. He had, however, seen smoke to the southward, arising doubtless from natives' fires, which are a fair indication of the proximity of water.

Mr. Campbell and Jemmy took up the search on the following day, and after traversing, to a point six miles southwest, barren country intersected by dry gullies, they came to a very wide river-bed in which they found a native well, but even this was quite dry. Thence descending the channel, they emerged on the Gregory at a point four miles from the camp.

These and other repeated failures began to cause me great anxiety, as our further progress was checked by the sudden and unexpected deficiency in question. I therefore resolved upon a more extended expedition, with the view of setting the matter at rest. Provided with a led-horse to carry provisions and water-bags, Jemmy and I ascended that tributary of the Gregory, named by me the Fullarton. We travelled eight long miles over arid rocky ground, growing nothing but bloodwood and triodia. We here found ourselves on a fine table-land (probably 1,000 feet, above the sea-level), which contains the main watershed of this district.* I named this Barkley Table Land.† We now coursed gaily along, charmed with the change from the rugged ground of the previous day

* This is, in fact, a continuation of the great chain or cordillera which encircles all but the west coast line of the continent, from King George's Sound, easterly, northerly, and westerly, to Port Essington.

† After Sir Henry Barkley, K.C.B., late Governor of Victoria, who was ever ready to forward, by his active zeal and personal influence, the work of exploration, so warmly entered into by the munificent Victorians.

to a finely undulating, park-like plateau. We were no longer required to expend our sympathies on our faithful horses, exposed as their feet had lately been to being cut and hacked by the stones, and torn in the legs by the harsh clinging stems of the triodia. The soil was richly clothed with the best grasses, which, though parched, proved a dainty treat to our half-famished horses. Trees were rare, and, to the south-west, none at all were visible.

Having ridden eight miles southerly, we espied a kangaroo. Jemmy forthwith dismounted, and, rifle in hand, proceeded to stalk him. The animal presently succumbed to the deadly weapon, and great was Jemmy's delight as he contemplated this palpable proof of his prowess. We skinned the body and hung it on a tree, covering it with boughs for protection. A ride of a mile brought us to a fresh water course, furnished with water-holes; so that we considered ourselves altogether in luck. This Creek I named the Pratt.*

The following day, after a ride of nine and a half hours, we rejoined our companions at the camp on the Gregory. The journey was interrupted by only three halts, for the purpose, namely, of dining, marking a tree at the junction of the Fullarton with the Gregory, and of packing the carcass of the Kangaroo, before mentioned. We were rewarded for the protection which the branches afforded our booty by finding it in a state of excellent preservation: otherwise, the eagle, hawk, and wild dog would have left us nought but the skeleton.†

Monday, December 8th.—We were glad to remove to the

* After Sir Thomas Pratt, K.C.B., Commander of the Victoria Forces.

† As regards the animals of prey which frequent Australia, the wild dog, or "dingo," is perhaps the most destructive; and he is particularly

water-hole at Pratt Creek; but as the supply of water was inadequate to our wants, Jemmy and I devoted the following day to a fresh exploration. Surmounting the right bank of the Creek, we steered east north-east, a little to the right of it. At three miles, we observed smoke rising in the distance. As this showed the existence of a native encampment, we became hopeful of finding water. But, after a steady ride, till dusk, over rugged ground, we could not guess whether or not we had passed the desired place. Our only halts were for the purpose of stalking a kangaroo, in which we were unsuccessful, and of procuring a honeycomb from a hollow tree.*

Next morning, we retraced our steps, with jaded and thirsty horses, ourselves being in an equally bad state. We continued to search every nook and cranny in vain. But, towards evening, we were cheered by observing recent traces of the

obnoxious to the squatter; for besides sheep, he is daring enough to attack calves and foals. The means employed to extirpate him are chiefly that of poison. Parcels of fat or carrion, impregnated with strychnine, are hung on low bushes or accessible trees. Where these means are largely employed, the decrease of the dog is attended with a corresponding increase of game. In the region west of Melbourne, for example, kangaroos and opossums have increased to the extent of becoming a pest; as many of the former as 800 having been shot in one day. The carrion crow abounds in the south, the hawk in the north. The former, of course, haunt sheep stations, for the sake of preying upon chickens, &c., and they have been known to snatch food out of children's hands. They will follow a horseman riding over a plain, in order to pick up the grasshopper and other insects which are startled by his passage over the ground.

* Wild honey is common in the bush: the pasturage is abundant and the bees find a convenient domicile in hollow trees. The English domestic bee is rapidly spreading over Australia and has already, in many places, practically displaced the indigenous one; for the simple reason, that the former yields a honey harvest twenty times in excess of that of the latter. The blacks are marvellously cunning in tracing the flight of the bee to his hive. Sometimes they adopt the expedient of catching one, and loading him with as much down as he can carry, so as to follow his homeward track with the greater ease.

emu—a bird seldom seen far from water. Presently these and other birds made their appearance, but still no water! The birds seemed only to stultify us by their bitter mocking: "We know where it is, but you foolish fellows cannot find it." Matters were not mended by the break-down of Jemmy's horse, which had to be left behind in Barrow's Creek. Fortunately, however, we had a pack-horse in reserve. At length, we stumbled on a recently dried-up hole, where, by dint of assiduous probing with a stick, and grubbing with our hands, we found just sufficient water to quench our own thirst, and to supply the horses with two quarts each.

Having hobbled our two exhausted horses, we went on foot down Barrow's Creek to its junction with the Pratt. Two miles up the latter, we were rewarded by the discovery of a hole containing a few gallons of water. Approaching to drink, I was startled by the appearance of a large snake that was luxuriating in this rare and precious bath. This was the first snake, of any kind, seen in these parts. We then returned and picked up the horses, with which we arrived at the fresh water-hole at 3 o'clock a.m. Throughout the fatigues and hardships of this journey of twenty-two hours, Jemmy neither grumbled, nor betrayed the slightest sign of weariness. I may here state once for all, that, during the whole journey, Jemmy and Fisherman never flinched from the performance of their duties; they proved, on all occasions, not only skilful and energetic, but willing and cheerful assistants.

On Wednesday, after a welcome rest of a few hours, we started for the camp by way of Pratt Creek. On our route we discovered two water-holes, one of them being sufficiently large to fall back upon in case supplies should fail us in the S.W.

On my arrival, I was relieved to find that the blacks had not discovered the camp, as it was inadequately defended. I was also glad to learn that Mr. Campbell had recovered from a severe illness from which he had been suffering, and which had occasioned a delay while on our way hither from the Gregory.

Next morning, I started with Fisherman on an expedition to the S.W. over Barkley Table-land. We first followed up Pratt Creek in order to fill our water-bags at a hole which Fisherman knew. A ride of ten miles over a level plateau brought us to the highest part of the Table-land—but no water was in sight. Thence we rode across a treeless plain fourteen miles in extent, and at sun-down reached a dry southerly water-course crowded with acacias. Having supped, we traced the new water-course—which I named the Herbert—till we came to a patch of grass, two miles distant. The grass was green, apparently *not* from the fertilizing effects of water, but from having had the old grass previously burned.

In the course of the day we had travelled thirty miles, chiefly over fine country, doubtless destined to rank as a first-class sheep run. Next day, our small stock of water forbade our risking a long journey down the Herbert. We consequently limited it to six miles, and then retraced the ground of the previous day till we arrived at the north-east side of the above-mentioned plain. It was now dark, and, being drowsy, I gave the lead to Fisherman. As his bushmanship was rarely at fault, I was surprised to observe, towards midnight, that he had lost the track. I at once gave my horse the reins, but instead of conducting us to camp, he made straight for a creek, where we shortly found a water-hole.

Observing on the edge of the water natives' nets for snaring

emu and bustards, and also fires lit on the bank, we thought it prudent to pitch our camp on a plain about two miles distant. This creek is a tributary of the O'Shannasse, which doubtless, in common with Pratt Creek, is a feeder of the Gregory. These, along with Herbert Creek, are all formed on Barkley Table-land : the Herbert is, however, as I have said, the *Southern* drain, and though it was, at the period of our visit, dry at its source, it is quite consistent with the idiosyncrasies of Australian water-courses for it to be a large and extensive river, further south.

Next morning, we were in our saddles at early dawn ; and ere long came upon a fresh river-bed, adorned with cabbage palms, tea trees, and such plants as love streams ; but the channel was then dry. Having lost our reckoning, we steered in a straight line, which fortunately proved the direct road to camp. As the water-hole there had dried up in our absence, our companions had moved three miles higher up Pratt Creek, where we gladly rejoined them.*

* Captain Allison having made several observations of the sun, I was glad to find that the latitude I had obtained by dead reckoning coincided with his result, viz., $19^{\circ} 24'$.

CHAPTER VIII.

Expedition towards Mount Stuart (continued).

Character of Barkley Table-land—Darvall Creek—Examination of the Herbert for Water—Mary Lake—Removal of the Camp thither—Christmas Day—Rencontre with an Elderly Pair of Blacks—Desert Country again—Hopelessly Arid and Sterile—Resolution to return.

Camp 18, December 19.—To day we shifted the camp, seven miles south to Clifton Creek, where we were constrained to pass the night, by the uncertainty of procuring water further on. In the afternoon a thunder storm suddenly burst upon us, and we were presently charmed with the rare sight of a running stream.

Next morning, we skirted Barkley Table-land on the southern side. The soil of this part, like that to the south-west, is excessively rich and beautifully grassed. It enjoys the advantage of being near the O'Shannasseys, the waters of which I subsequently ascertained to be permanent. At the lowest estimate, therefore, six miles of the back country are available for grazing purposes.* And it is highly probable that permanent water-holes exist further inland, which my cursory exploration may have easily overlooked. If not, the construction of wells and dams would enable the Squatter to embrace a considerable area of this excellent grass.

We next alighted on the water-course named Darvall Creek; and thence proceeding a similar distance, we arrived at what I have called the Wilkie, where the discovery of a pool tempted

* See note, page 34.

us to encamp. We separated next day, into two water-exploring parties—Darvall Creek being the appointed *rendezvous*. Result, *nil*. Darvall Creek appeared to be the only water-resource within our present circuit. Its banks slope gently from the plains, and instead of rugged stones and triodia, consist of rich soil and succulent grasses. We soon moved three miles higher up to a water-hole of superior character. And our supper was enriched by the addition of a bustard to our usual fare.*

On Friday (December 20th), I made a fresh attempt to penetrate south-west, taking with me an extra supply of water in double canvas bags. Steering straight for the old goal at the head of the Herbert, Jemmy, Fisherman, and I advanced as pioneers. On the second morning, on taking stock of the water, I thought it advisable to send Fisherman back, in order to lessen the consumption of our greatest and rarest treasure.† With Jemmy I descended the Herbert six miles, that being the point where Pring Creek joins that river, and where I had marked a tree on the occasion of my previous journey thither. The gift of prevision on that occasion would have directed us to a water-hole three quarters of a mile beyond, and saved us the loss of much valuable time. We now procured a few gallons of water from it. Having ridden upwards of five miles down a completely dry bed, we at length stumbled on some water in the hollow of a rock. As a number of small birds appeared to have appropriated it, I felt like a robber in depriving them of their treasure; but let us hope

* Captain Allison fixed the latitude of the late encampment at 19° 37'.

† For a detailed description of this method of *reconnoitring barren countries*, I refer the reader to that excellent and thoroughly practical handbook, the *Art of Travel*. Page 144, &c.

that my sacrilegious act was sanctioned by the great law of necessity. Two long miles further on brought us to the embouchure of another creek, named the Harvey, where we saw several flocks of pigeons, but no water. Half a mile lower down, we observed a singular deep, dry pit, on the left bank of the Herbert; but whether or not it was artificial, I was unable to determine. Three miles further brought us to a magnificent water hole, about a quarter of a mile in length, which I named Mary Lake. The abundance of mussel shells, and the hacked condition of the trees, combined with the scarcity of dry firewood, clearly showed it to be a favourite resort for the blacks. The discovery of Mary Lake was so decisive of our future course, that I at once made for Darvall Camp; and, on the following day, a ride of nine hours and a half, or twenty-one geographical miles, brought all of us to our new destination.

Mary Lake. Christmas Day.—Here we spent yesterday and to-day, tempted chiefly by the excellence of the grass, and the pleasantness of the place for a festive sojourn. We had, besides, a good deal to do in the shape of smith's work and general repairs. Mr. Allison and I set to work to shoe Mr. Campbell's foot-sore horse, which, as amateurs, we accomplished, certainly with great difficulty, but fortunately to our own satisfaction. A grand difficulty in the operation was fitting the shoes accurately and punching holes of an unusual description, for as we laboured under the want of suitable nails, we had to use screw nails in their stead.

We relieved the tedium of this work with duck shooting, and ended each day with a hearty and jovial meal.

In the course of a ride down the Herbert, with Jemmy, I found the channel level and broad, and so overgrown with

grass as to present the appearance of a sward. The grass was greener than that on the banks, which rose, on both sides, to a considerable height. At four and a-half miles we reached a fine water hole, named Frances Lake, where we surprised a pair of blacks—the one a grey-haired old man, the other, also old, was the chosen partner of his joys and sorrows, or, less floridly, his “gin.” She seemed as anxious for the safety of four poodles, one of which she hugged to her bosom as fondly as any of her “civilised” sisters of the *beau monde* are in the habit of doing with their corresponding pets. On our approach, however, she abandoned her canine treasures and rushed into the water, but afterwards, following the example of her inferior half, she took refuge in a tree. Jemmy tried in vain to hold an intelligible conversation with them.

Thursday, December 26. — We moved our camp further down the river. After proceeding eight miles, Captain Allison fixed our latitude at $20^{\circ} 6'$. At this place, the character of the country presented a remarkable contrast to that which we had just left. The river here multiplied into several channels, which wandered free and unconfined over dead level plains. The large amount of drift indicated that the country was occasionally flooded. The entire district appeared like a dreary wilderness: the grass was completely burnt up; the salt bush and trees, rare as they were, had lost their vitality; and the waterless waste seemed altogether to forbid our further progress.

On the return of Jemmy—whom I had sent ahead on purpose—with what I understood to be an unfavorable report of water resources, we retreated four miles to a water-hole,

named Kenellan.* Here we again encountered our aged friend of Francis Lake, in company with some of his tribe. They, in common with the natives of the north coast, appeared to have practised the rite of circumcision ; their word for water seemed to be "otto;" they were vastly pleased with the gift of a tin pot and two empty bottles.

Being loath, on all avoidable occasions, to encamp in the neighbourhood of blacks, I was not sorry to learn from Jemmy, on making more minute inquiries, that I had misunderstood his report of the absence of water ahead. We accordingly hastened to a water-hole now mentioned by him as being about six miles lower down. We were agreeably disappointed on finding a country once more smiling with verdure, abounding in water, and altogether presenting a strikingly favorable contrast to the desert above described ; so completely had the presence of water changed the aspect of a country of identically the same physical features as those of the neighbouring desert. This observation will not unfrequently be found to be the key to the discrepancies of various Australian explorers. For example, Sturt, in his account of the Darling river, gave, from the simple fact of the period of his visit being a dry season, a gloomy picture of a locality which has subsequently proved to be one of the finest sheep districts in N. S. Wales.

But our hopes were destined to be of short duration. The region in which we now were was as little a sample of the country beyond, as it was of that immediately in our rear ; for, six miles further on, we were fain to content ourselves with just as much water as slaked the thirst of the horses.

* Gailic for "last water."

Beyond this, no water had come down the Herbert, and a twenty miles ride over arid plains, which were simply a repetition of the wilderness before alluded to, once more seemed to warn us to go "thus far and no farther."

Leaving the main portion of my party behind as usual in such cases, I advanced ahead, with Jemmy and Fisherman, along the channel, the banks of which were here more wooded than higher up. But a ride of three miles was sufficient to convince me of the thoroughness of the drought, and consequently of the utter hopelessness of going further on this track. The position was lat. $20^{\circ} 17'$ long. $138^{\circ} 20'$, the latitude being precisely the same as that reached by Gregory in his expedition of 1856, from the Victoria river. Then, at a point six hundred and fifty miles further west (long. $127^{\circ} 30'$), he had to retreat from a similar cause. This lugubrious region was appropriately presided over by immense quantities of hooded owls. On rejoining my companions we moved to a small pool four miles higher up the Herbert and encamped.

It was with the deepest regret that I was compelled to admit the impracticability of continuing this journey to its destination, Central Mount Stuart. Personally I was vexed at the necessity for leaving a fixed and defined plan incomplete; but, in yielding to it, I was actuated by a combination of motives:—Firstly, I had ere this surrendered the small hope I always entertained of finding traces of Burke on this route; secondly, my engagement with Captain Norman to be at the dépôt within ninety days, forty three of which were already exhausted, did not allow of my waiting here for the approach of the wet season, when, on the one hand, the continuance of the journey would have doubtless been practicable, but, on the other, my return at all near the appointed time would then probably

have been protracted by floods ; thirdly, the more extended and more hopeful expedition which I had planned rendered it important that my horses should arrive at the dépôt in such a condition that a short rest would suffice to recruit them.

CHAPTER IX.

Expedition towards Mount Stuart (continued).

Beginning of our Return—Hostile Blacks—Imprudence of Risking a Collision—Celebration of New Year's Day—The O'Shannasseys—Peculiarities of Australian Rivers—The Mouth of the O'Shannasseys—Descent of the Gregory by *Right Bank*—Remarkable Hydrographical Mistake—The River Nicholson—Arrival at the Dépôt.

Saturday, December 28th.—Mr. Campbell and Jemmy went ahead with the pack-horses, while Fisherman and I remained with Captain Allison, who wished to take an observation for the purpose of confirming the previous one: both results precisely coincided.

We soon overtook our companions, as their progress had been retarded by a jaded horse. A ride of eight miles brought us again to the luxuriant "oasis in the desert," previously described.

I was constrained to give up my intention of recruiting here on account of the risk of coming into hostile collision with the natives who, now for the first time, appeared in threatening numbers. No sooner had we pitched our camp than two natives presented themselves. Having given them two bottles, they left us, but presently returned with a number of their companions who remained till dark. At dawn, they reappeared in force, amounting to above a hundred. Although they did not molest us, their manner of surrounding us was decidedly uncomfortable. In order to frighten them, we kept discharging our rifles, at hollow trees, but this failed to impress them with a notion of our prowess.

Mr. Campbell, ever ready for any bold adventure and confident of being a match for any number, marched into the midst of them and tried to make them understand that, however friendlily disposed we felt towards them, we had no objection to a little less of their company. The only intelligible pantomimic reply was that they wished to have as little of ours. Mr. Campbell returned disappointed from his unsuccessful embassy; and, particularly as Jemmy had told him of certain marks of disrespect having been paid him behind his back, he counselled revenge. But I could not see the necessity for inaugurating the first exploration of this district by a bloody fight, more especially as the enormous odds of more than a hundred heavily armed savages against five of us, naturally suggested the trite maxim, "Discretion is the better part of valour." Supposing, however, they had shown fight, it is highly probable that, as our active preparations to move our camp sufficed to frighten them, a rapid advance on horseback would have effectually put them to flight. The men were, for the most part, more athletic and finer looking than the aborigines usually are—some of them being even above six feet high. In connection with this subject, it may be interesting to the ethnologist to note that there is no great difference in the physical characteristics of the tribe of the northern and southern latitudes. The superficial distinction, as far as I have observed any material difference, arises from superiority of feeding, or *vice versa*.*

* A few remarks incidental to this subject, I shall here briefly give :—The aborigines are not, according to the popular notions in England, akin to the African race; but the conclusion that they are of Papuan origin is now generally accepted. With the exception of the copper colour, the unusual breadth of nose, and strong mouth, the average native does not prominently differ from dark complexioned Caucasians. Even their hair is smooth and luxuriant, and, though often curly, by no means *woolly*.

We broke our journey to Mary Lake by a halt at Kenellan, for the purpose of dining on such ducks as we should be successful in shooting. While so employed, we heard cooeing in the distance. The cooeey was answered by some blacks in our neighbourhood, the reply being equivalent to "all right." It proved to come from a party of blacks who presently made their appearance. They were laden with the spoils of the chase; and so thirsty were they that, without taking further

Their intelligence is good, and, *ceteris paribus*, I should say on a par with that of the white man. For example, native lads, who have the ordinary schooling, not unfrequently even excel the Anglo-Australian in scholarship.

Blacks reared with the colonists are noted for their courage; they are good boxers and fearless riders; when not too fond of grog, and entirely away from their tribe, they are trustworthy and excellent servants. In regard to native, untutored, instincts, they stand, as bushmen, high in the scale of savages. As trackers, they are certainly not anywhere excelled. One, for example, tracked a horse seventy miles; and another succeeded in tracking my saddle horse twenty-five miles, over difficult country, part of which was a horse run; and, on another occasion, when I was unable to abridge the distance between two stations to a shorter distance than 25 miles, a native further curtailed it to 17—and that, too, on a dark and stormy night: the same track is now used as the postal route.

It cannot, however, be maintained that the natives of Australia are exceptions to the ordinary savage, in their notions of what we are pleased to associate with the practical objects of life. They have no idea of the value of money or property: on one occasion, for instance, when I had spent some days in seeking a hundred lost sheep, a native assistant observed with the utmost nonchalance, "What for you too much look for sheep? *plenty* more." And another on being asked by a gentleman, who had brought him to England and given him a good education, "what he would like to be," replied that, if obliged to do anything, he would prefer turning a hurdy-gurdy. On the same "eccentric" principle, they are not distinguished for forethought. A black shepherd, on receiving his weekly rations, will call his friends together and enjoy a glorious feast, the penalty for which is, that he must submit till next ration day on chance game or honey procured by himself or friends. In short, they are happy-go-lucky sort of fellows, good natured and without malice, full of life and the art of enjoying it, after their own fashion.

A feast is generally connected with a dance (commencing at the fashionable hour, 11 p.m.), in which, however, the fair sex do not take part, though they enjoy the dignified privilege of presiding over the

than a cursory notice of us, they plunged into the water. The journey between Mary Lake and Darvall Creek being a long one for wearied horses, I went ahead with Jemmy to seek for an appropriate half-way resting place; but I could find no water. On rejoining my companions, I was surprised to find our camp open to any sudden attack: Mr. Campbell and Captain Allison both being asleep, and Fisherman absent on a ramble. I mention this, not with the view of making any reflection on my companions, but as an illustration of an important principle in bush-tactics, viz., *always* to be prepared for an attack. The blacks soon learn whether there is any looseness in the watches of the camp of the traveller, or in the patrols of the frontier runs, and, when discovered, a collision—in every way an undesirable thing—is next to a

toilette of their lords, which consists in dressing the hair, painting, &c. They also fulfil the functions of musicians, beating time with a pair of sticks; as also of stokers, in feeding the blazing fires. The dance is called a "corroboree."

As to their fighting, they seem to be as fond of a warfare of words as of weapons; and the results generally correspond to those of an Irish scrimmage—viz., plenty of bruises but no casualties of any moment. In fighting-spectacles, only two are accustomed to enter the lists. The weapons consist of spears, throwing-sticks, boomerangs, and clubs. They throw the former with remarkable precision and force, and so skilful are they in guarding with the shield, that the projectiles are seldom effective. When these are exhausted, they come to close quarters, soon after which the battle is probably interrupted. Although the native, armed with a spear, is a dangerous enemy at a distance of 15 yards, he is, when acquainted with the effects of firearms, easily kept in check, even by a pistol.

Fighting is more practised when there is abundance of food; otherwise, they are employed in procuring supplies, consisting of kangaroos, wallabies, opossums, and birds. At the Bunya range, a hundred miles inland from Wide bay—the cone of the Bunya-bunya (*Auracaria Bidwellia*), is so choice and abundant a dainty, that during the harvest of that delicious fruit, the blacks of that locality have plenty of leisure to fight. It is a curious fact, that old men are supposed to exercise a blighting influence over young ones, and they avail themselves of this to appropriate the young wives, courteously handing over the old hags to the strapping youngsters.

certainty ; while, on the other hand, vigilance is commonly rewarded with security.

At Darvall Creek, we spent New Year's Day, which was, indeed, a day of rest for man and beast—especially the latter. Our dinner was signalized by the sumptuous addition to our ordinary rations of a few pots of jam and a bottle of rum. Clifton Creek was our next encampment, whence, after shoeing a horse with stubs from cast shoes, I hastened towards that point of the O'Shannasseys which I had on my way hither found dry ! To my delight, it bore marks of having been recently flooded, and it was therefore practicable to follow it down. Next day, we accordingly left Barkley Table-land and spent the night eight miles down the hitherto unexplored valley of the O'Shannasseys. It presented the appearance of being at all times well watered, being, like the Gregory, fed by springs, and not entirely dependent on local rains.

Though the ridges immediately adjoining the river are rugged and steep, the stream is not inaccessible from the Table-land. As the grass was here unsuitable for the horses, we continued our journey, as far as the junction of " Harris Creek " with the O'Shannasseys. At this point, the channel contracts into so narrow a gorge that it was impassable for the horses. Jemmy and I accordingly advanced with pick-axes to widen the breach. While so engaged, Mr. Campbell reported that the horses had voluntarily gone into the river, and that one of them had sunk. Fisherman and Jemmy dived and succeeded in recovering the saddle and gear from the body of the ill-starred brute. Somewhat lower down the channel was almost dry, while again a few miles further it was splendidly watered. This alternation of water and drought is a peculiarity of many Australian rivers, a

variability which is doubtless to be accounted for by the existence of subterranean channels, the proof being that copious supplies of water are found by digging in the dry places. The deeper parts of the river-bed form the water-holes, and these are protected, during the wet season, against being washed level with the more elevated, or dry parts of the bed, by rocky bars. During the wet season, the current is of course continuous, and in the case of considerable rivers, like the O'Shannasse, the drift entangled in the trees on the banks is found as high as thirty to forty feet. The drift, consisting of the loose rubbish floated down the river, is often the only indication to the traveller of the course.

The *flora* is of course subject to corresponding changes : where there is surface water, we have pandanus, cabbage palm, tea-trees, Leichhardt and fig trees ; whereas a dry bed is marked only by the Eucalyptus. After tracing the O'Shannasse eight miles from the second camp pitched on that river, we came to the confluence of a considerable stream from the south. I named it the Thornton. Like the O'Shannasse, it was well watered and confined by precipitous ranges. A tree which had fallen across a narrow part of the O'Shannasse enabled me to go over dry-shod from the left to the right bank for the purpose of marking a conspicuous tree at the junction. We resolved to encamp at a point four miles lower down, our access to which was impeded by the boggy character of the ground and the difficulty of penetrating the masses of tall tea-trees which here crowded the margin of the stream.

Two days of similar travelling brought us to our old friend the Gregory, on the opposite, namely the left, bank of which lay our outward track. Here I ascended the ridges for the

purpose of viewing the country. Near the mouth of the O'Shannassey, the reaches became extensive, and the banks less abrupt, but the ranges were strewn with so many rough stones, that I was compelled to return to the easier track made by the advancing pack-horses.

Fine basaltic columns, sometimes faced with bottle* and other varieties of trees, sometimes interrupted by open flats, with conical hills in the distance, gave this portion of the country a picturesque aspect.

It would appear that the kangaroo prefers barren ridges to rich plains; for they frequented in large numbers the former kind of country both on the O'Shannassey and the upper Gregory.

For the sake of following fresh ground we kept to the right, instead of crossing to the left bank of the Gregory, (by which we ascended it). At the beginning of the second day's journey, we came to the channel of a branch of the Gregory, which I named the Ligar. It was 150 yards wide, but the channel was dry. I observed, however, that the flood-marks were high. Lower down, where the Gregory became contracted, within two hills, the flood-marks were so high as thirty feet. Thus far, the country continued to suffer from drought, but on leaving the ridgy country, we found the herbage of the plains quite luxuriant. I was now on the look out for the spot where I had forded the Gregory on the outward journey, with the view of striking across country for the head of Beame's Brook, which I designed to trace to its junction. But though I rigorously followed the river bank, I

* The *bottle-tree* is so called on account of the shape of its trunk; though its claim to the name might also rest on the fact that it contains small supplies of water which is got at by piercing the bark.

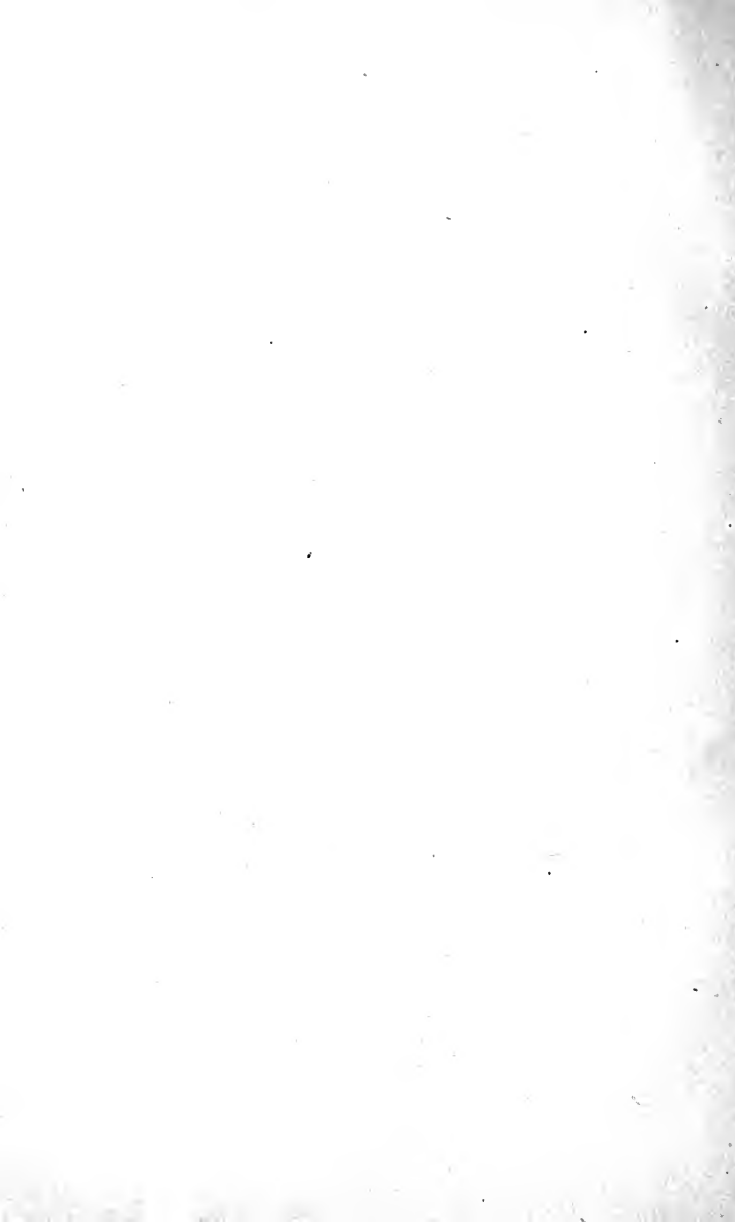
was astonished at being unable to discover the ford. At length, an observation of the sun showed that we were considerably to the north of the ford, though our senses emphatically declared that we had been all along accompanying the Gregory. The conclusion therefore was, that we were actually on the right bank of Beame's Brook, which, in fact, forked off from the Gregory a few miles higher up. This effluent from the Gregory forms, at the same time, a tributary of the Albert, which it joins at Beame's Brook junction, formerly mentioned. The Gregory continues its course from the fork above noted, till it joins the Nicholson; which, combined with the waters of the Gregory, runs parallel to the Albert, for a distance of about thirty miles before entering the gulf. Their mouths are nearly twelve miles apart.

Frequent and heavy thunder storms latterly retarded our progress, and the swarms of mosquitoes thereby brought into life rendered our rest anything but comfortable. The path we now followed led, like the neighbouring districts formerly described, over sparsely timbered and richly grassed plains: in short, as fine a country as any I have seen in Australia for pastoral purposes. Instead of making straight for the junction of Beame's Brook with the Albert, we deviated to the right, and finally reached the left bank of the Albert at that point to which Lieutenant Woods and I had at first extended our survey exploration. Here, above the junction, the Albert is, on the whole, so insignificant a stream that its importance in the latter part of its course must, in the first place, be ascribed to its great feeder Beame's Brook, and, in the second place, to the influence of the tides. As an estuary, it ranks much higher than the Nicholson, and it is navigable for an average-sized passenger steamer as far as the

junction. For the first time since leaving the Herbert we observed several natives concealed in the trees. Ostrich-like, they imagined they could see without being seen, but their acuteness was over matched by Jemmy and Jacky.

We had great difficulty in crossing the boggy channel which characterises the brook above the confluence. We there unintentionally diverged about three quarters of a mile to the left, which luckily gave me the opportunity of inspecting the Nicholson. It had a broad sandy channel, here, however, so obstructed by islets covered with tall tea-trees, that it was impossible to get a fair glimpse of the farther bank. A little farther on our correct route for the depôt, we noticed recent tracks of some exploring party, which we guessed to be that of Mr. Walker.

Next day, our approach was descried by the guards of the depôt, and the boom of a gun was our distant welcome. After the usual exchange of greetings, we learned that Walker had been there, and that, having found Burke's tracks on the Flinders, seventy miles distant, he had restocked himself with provisions, and gone to follow up the tracks.



Expedition Oberland to Melbourne.



CHAPTER X.

Expedition Oberland to Melbourne.

Official Obstacles to the Journey—Meagre Supply of Provisions—Departure from the Albert—Recalcitrant Horses—Character of the Country—The River Leichhardt—Richness of its Borders—Neumayer Valley—Approach to the Flinders.

I remained at the *dépôt* twelve days before I had the opportunity of communicating with Captain Norman, who, as my official superior, had the power of deciding whether or not I should make the overland journey from Carpentaria to Melbourne. On at length being favored with an interview, I was surprised to find him opposed to my scheme, for the ostensibly good reason, that Mr. Walker had gone to follow Burke's tracks, and that provisions were short. I ventured to combat his arguments by pointing out the extreme unlikelihood of Mr. Walker being able to follow up tracks which ere his arrival would doubtless be obliterated;* that, although it would be arrogant of me to presume that my party would prove more efficient trackers, I was at least so sanguine as to believe that following the route formerly mentioned as being in Mr. Gregory's and my own opinion the best, would, if it did not lead to the discovery of Burke's tracks, at least conduce to the fulfilment of an important, though secondary object of the expedition—viz., the exploration of country. Then as to provisions, I should be content to receive such a supply as he could spare;† because I was hopeful of being able to

* Which, in fact, proved to be the case.

† In allusion, of course, to expedition (not *ship's*) provisions of which I had a more liberal supply at Brisbane, and on which I presumed I had a special claim.

replenish my stock at a sheep-station of my own, then in the course of formation midway between the Albert and Cooper's Creek ; and, finally, as the last remark implies, I was already acquainted with the latter portion of the journey. While, in conformity with his sense of duty, he warned me of the dangers likely to accrue from insufficient provisions as well as from blacks which Mr. Walker, with twice the defensive equipment, had found hostile, Captain Norman at length yielded a tardy, and somewhat equivocal assent.

I now set to work with a will to prepare for the new and more extended expedition ; but, in doing so, I had three unexpected obstacles to encounter. These in their order :—First of all, I had been congratulating myself that Mr. Walker had left his journal and the chart of his route in Captain Norman's hands, as I should thereby be able, firstly, to fix my actual point of departure—namely, the point at which Burke's tracks had been seen ; secondly, to avoid Mr. Walker's already explored route, which until latterly had proved *not* to be that of the missing explorers ; and thirdly, inasmuch as more than the first half of my route must necessarily run parallel to his, I should be guided by his notes as to the *locales* of water, in case that terrible desideratum should compel me to cross to his track. Those documents would therefore have been of infinite value to me ; but the reader will learn with surprise that I was permitted to have but one cursory inspection of them, on the alleged plea that Mr. Walker had desired the documents to be presented to the Royal Society of Melbourne, *without their being previously shewn to any one*. As the condition, printed in italics, has since been emphatically disowned by Mr. Walker, I have only to remark that it was extremely unfortunate Captain Norman

so seriously misunderstood instructions as unwittingly not only to interpose obstacles in the way of that open and liberal spirit which ought to actuate brothers co-operating in one cause, but also which might have led to the sacrifice of the success, and even the lives, of a party of enterprising individuals. My second drawback was, the sudden disinclination of Mr. Bourne to enter upon the journey, as second in command. Indisposed as I was to appropriate unwilling services, I found myself in an awkward dilemma; for, both, Mr. Campbell and Captain Allison, being fagged by their late toils, were anxious to go home in the *Victoria*; and, on the other hand, I had framed all my calculations on the assumption that Mr. Bourne, who had been released from the first expedition on his own declared preference for the second one, would now be ready and willing to accompany me. I had therefore no other resource than to enforce an involuntary submission, which was further confirmed by Captain Norman's authority. The question of provisions, however, was one of the most vital moment. The expedition stores, which Captain Norman had in keeping, were, on the whole, so abundant that I trusted the supply, now at our disposal, would be at least commensurate with the requirements of so hazardous a journey. I was therefore chagrined on learning that our rations were of the most meagre description, comprising the bare necessities of life, and certainly inferior to prison fare.* A glance at the note will show that we were denied *tea, sugar, and rum*! The picture shows a party of six men, launched upon a journey of several months, over an unexplored continent, and forced to

* Viz.—40 lbs. peas, 96 lbs. salt-beef, 40 lbs. rice, 268 lbs. damaged beef jerked, 27 lbs. bacon, 650 lbs. flour, 110 lbs. broken biscuits, 18 lbs. tobacco.

leave behind them in a Steam Sloop, within a fortnight's sail of a commercial port, every desirable and useful article of diet beyond what was barely sufficient to maintain life. The tone of the coloring will be improved by the consideration that the stores in question were supplied expressly for that party, and that they were entirely distinct from those of H.M.C.S. *Victoria*.

Albert River, February 8, 1862.—To day we* took the first step towards our long journey. Having transported twenty-one horses and our baggage to the further bank, we finally abandoned the *Firefly*. The crew of the boat which had brought me from the *Victoria* gave us three hearty cheers, and we stood alone, with a continent between us and our destination. A multitude of minor preparations detained us here till the 10th, when we were not sorry to get under weigh, on account of the swarms of musquitoes that the adjoining mangrove and mud flats fostered. At length, after distributing a few articles among a group of wondering blacks, we bade adieu to the Albert.

Traversing one of the finely grassed plains common to this region, we came upon Walker's tracks, and at five miles reached a good water-hole, full of slightly brackish, though drinkable water, and encamped. The tracks of Walker's party had been rendered so indistinct by recent rain that they were perceptible to none but my black boys; I therefore concluded that we had but small, if any, chance of following him up to that point on the Flinders, where Burke's tracks had originally been seen. The horses were so fresh after their three weeks' rest, that they kept expressing, in the forcible language of

* My party included Mr. Bourne, Gleeson, a quondam sailor, and three native assistants—viz., Jemmy, Fisherman, and Jacky.

kicking and plunging, their unqualified disapproval of work. Mr. Bourne and Gleeson made themselves useful on the following forenoon in repairing the damages thus occasioned.*

Coursing along the plains, we soon arrived at a salt water creek, destined one of these days to form one side of an enclosure for stock. When we had crossed to the other side, we lost no time in encamping, in anticipation of a threatening thunder shower which would have injured our unprotected stores.

This morning (February 12), we were early in motion, with the intention of doing a good day's work. Walker's track was only occasionally perceptible; but near our encampment, above sixteen miles distant, a dead horse decided our dubious guesses. In the course of our ride, we continued to traverse richly grassed, thinly timbered plains, alternating with flats; the area of the former being one third in excess of that of the latter. The flats were also well grassed, and were wooded with flooded box, and exoecaria.† The plains were more elevated than previously.

Next morning our departure was delayed by the work of shoeing. A ride of eight miles over plains, luxuriant with verdure, and lightly wooded, brought us to the river Leichhardt.‡ It was here one hundred yards wide, the water was salt, and the banks were high. As the slippery rocks, together with the precipitous character of the further bank, rendered fording out of the question, we ascended the left bank till we arrived at a water-hole. Here I found myself reduced to one

* Latitude $170^{\circ} 53'$.

† Exoecaria. A good sized bush, a habitat of low, saline, alluvial ground. It exudes a milky poisonous juice.

‡ Captain Norman had surveyed this river, and found it quite as navigable as the Albert.

good-going watch : this was particularly unfortunate, as I was accustomed to measure distance by the time consumed in travelling at one uniform rate.

February 14.—So much rain had fallen, that Walker's tracks were now obliterated. Finer country for sheep than these rich plains could hardly be found ; they were quite luxuriant with verdure, and adorned with the conspicuous blue flower of the convulvulus. It seemed to me inconsistent with the economy of human life, that so much excellent material for the development of industry should, in the presence of first-rate resources for water carriage, be allowed to go to waste.

A ride of eight miles over the usual kind of plains brought us to a ford, where we crossed and encamped beside a clump of beautiful fig trees.* The scenery was quite picturesque, and it would doubtless be vastly improved by the heavy floods of the wet season—the river here being two hundred yards wide, with a fall of thirty feet. At the period of our crossing, however, it was lucky that the water simply trickled over the basaltic bar which dams the fine water-hole above. While preparing to bathe, we heard a suspicious plunge, like that of a retreating crocodile ; we accordingly retired to shallow water. Harmless as this animal is, in Australia, we were not anxious for his company in his native element.

The right bank of the Leichhardt is inferior, as regards the average quality of its grass, to the left, and it is more thickly wooded. The trees were not, however, so dense as to interfere

* Lat. $18^{\circ} 10'$. Mc. Kinlay reached this point a few months later. He had come from Adelaide and proceeded hence direct to Port Denison. He found equally fine country on the upper course of the Leichhardt ; and mine were the first explorers' marks discovered by him, since leaving Cooper's Creek.

with a horseman riding at a hand-gallop. In addition to the usual trees, I noticed gum, box, bloodwood, severn, fig, cotton, white cedar, and coral.*

Directing our course to the Flinders, we exchanged the agreeable margin of the Leichhardt and that of a tributary stream which crossed our route, for six miles of barren and profitless country. We then descended into Neumayer Valley, and encamped on the brook which drains it from the north-east. Although the water-holes were shallow, the drift marks were high. We passed the Sunday in this pleasant valley, which, decidedly moist as it is, appeared to me more suitable for cattle than sheep. The flats were well grassed, and wooded with exocaria. We saw a small flock of emu, but failed to shoot any. Consideration for my horses decided me against the adoption of Leichhardt's plan of running them down.

On leaving the valley on Monday, we passed over finely undulating ground, free from timber, and ornamented with small conical hills. This appeared to me an enviable site for a cattle or lambing station. The back-ground was occupied by loftier hills, clothed, like all those of the eastern section of Australia, with trees. Our course (E. and by S., half S.), was accurately followed by Fisherman for two days without the aid of a compass. The country traversed was seemingly badly watered, although our wants were fully supplied by recent rains. As a precaution, I would therefore advise the pioneer squatter, travelling in the dry season, to keep nearer the coast-line when he need doubtless be under no apprehension. The ridgy country is uncommonly poor,

* *Exythuna*. One of the few deciduous trees of Australia: its flower, which blooms before the leaves appear, are like red coral.

overcome with triodia, and wooded with the usual trees of this region—viz., the tea, severn, and the bloodwood. On a small tract of rich country, I observed gidya and bauhinia. The former, common in the inland parts of N. S. Wales and the more settled parts of Queensland, I have never seen so close to the seaboard. The evening of our second days' journey from Neumayer Valley found us thirty-two miles in advance, and surveying the Flinders from the edge of the Table-land. The camp was pitched in a ravine, access to which was exceedingly difficult and intricate. This ravine possessed all the features of a good natural reservoir.

CHAPTER XI.

Expedition Oberland to Melbourne (continued).

The Flinders—Our Youthful Houyhnhym—Character of the Flinders—Fort Bowen—Mount Little—Esculent Berries—Blacks—Opossums and Rats—Fording Creeks—Scenery—The Country in a Utilitarian Sense—Sunday, as a Day of Rest—The O'Connell—Hunt after a Bullock—Rencontre with Blacks—Bramston Ranges—Illness of some of My Party—Walker's Table-Mountain.

February 19.—Our descent to the Flinders lay over rich plains, intersected by short spurs from the Table-land, culminating in conical hills, which, pretty in themselves and topped with sandstone blocks, gave a characteristic aspect to this locality. I named them Donor's Hills.* A ride of five miles further brought us to the river. Larger, though *apparently* less, than the Nicholson or the Leichhardt, it was confined by precipitous banks a considerable distance apart, and the elevated spaces between the five channels into which it was divided, were marked by rows of tall flooded-box-trees. Although wearing the traces of a recent flood all but the deepest channel were dry. The low ground near the banks was well wooded and grew abundance of pig-weed and saline herbage. Thence stretched, from both sides of the river, fertile plains, beautifully grassed and free from trees, forming altogether as fine sheep country as I have seen. The surface

* In acknowledgment of the liberality of an anonymous Melbourne gentleman who initiated the exploration fund by a donation of £1000.

was here and there broken by back-channels, from the main river, and these were correspondingly marked by rows of trees.

Baffled in our efforts to find Burke's tracks, we crossed to the right bank, imagining that to be his most probable route. This choice was unfortunate, because, from what I have since been led to suppose, he had followed the left bank. Having traced the river thirteen miles southwards, we encamped.

February 20.—Here one of the mares foaled. The character of the pasturage along my entire route cannot be more palpably shown, than by the fact that mother and son arrived in Melbourne in excellent condition, although the former had been used as a pack-horse. Even before he was three days old, the youthful "Houyhnhym" had travelled forty-seven miles. The country traversed was a continuation of the rich plains formerly described, with this exception, that the verdure of the grass had been rendered more luxuriant by recent rains. Some of the grass resembled barley and sorghum more closely than any other indigenous grass that has come under my notice. The horses were so fond of the latter that we could with difficulty drive them off it. My black assistants, who occupied their leisure in hunting, brought in five opossums, which were to us a savory morsel, completely throwing our dried meat into the shade. Emu were also abundant. Although we were generally on horseback in the day time, we did not find the heat oppressive. Unfortunately however, I cannot give the variations of temperature, because my two thermometers had been broken early in the first journey. The loss of that instrument was serious in another point of view—namely, as a make-shift metron for heights—it being applicable to that

purpose by giving the comparative temperatures at which water boils.

The distance to the next encampment was sixteen miles, where we were about four miles north-west by west from the first hill on our track since leaving Donor's hills. I called it Fort Bowen.* The points at which we struck the Flinders were wooded with gidya, instead of box. We were inspirited by the hope of the continuance of the showery weather which had favored this day's journey.

The following morning found us at Fort Bowen, with abundance of springs at both the northern and southern base. On the former mounds were formed, from an aqueous precipitate, composed of soda, lime, and earthy matter—a phenomenon not unknown in South Australia. The compound, as I once personally experienced, acts as an efficient substitute for sulphate of zinc, &c., in ophthalmic diseases. The mounds in question were environed by reeds and tea-trees. The addition of weeping willows, and other trees, would enhance the beauty of the spot, when chosen as a site for a station. On ascending the hill, which is about two hundred feet high, we saw, through the dense mist that enveloped the summit, two small conical hills, situated near the right bank of the river and therefore in our course: the one I named Mount Brown, the other Mount Little. Thinly wooded plains occupied the intervening space; and the river on the left bank appeared to be thickly wooded. The chief geological characteristic of Fort Bowen appeared to be pudding-stone. Descending towards our encampment about seven miles distant, I left Mr. Bourne and Jacky to overtake me at their leisure, with as much game as they could bag. They very soon rejoined me, laden with

* After Sir George Bowen, K.G.C., Governor of Queensland.

cockatoos which were so abundant that the trees, on which they were found, seemed one mass of white. It was a pity that our supply of ammunition was insufficient for the purpose of killing them in large quantities, as in a dried state they would have served as an excellent reserve stock of provisions.

Next day, from the weather being showery and the wind cold and northerly, the horses had dispersed so much that the best part of the day was consumed in collecting them. We therefore thought it best to remain here another night. During his work, Jacky killed a couple of snakes—the first, but one, we had seen. He got a harmless bite for his pains, but satiated his revenge by discussing the reptiles at supper.

On our arrival at the bottom of Mount Little, we found shallow water-holes, and also springs similar to those above described. From the summit—to which we had ascended in order to build a cairn—we surveyed plains of the richest description, fresh and green from recent rains.

The river here has a deep current, and its permanence was guaranteed by the presence of tea-trees, that fringed the banks. The black boys got drenched during the night by a sudden and violent shower. They were so amused by the adventure, that I feared any words of mine on the importance of having their tents erected would have been out of place.*

The eighteen miles of ground gone over on the following day presented a new feature, the plains were intersected by sandy ridges, and the country, as a whole, appeared to be more retentive of moisture than that further north. The river banks were wooded with box, gidya, and exoecaria; the

* As an old traveller I may be permitted to point out the imprudence of needlessly getting wet, more especially where one's wardrobe is necessarily scanty. Two of my boys suffered severely from their incautious exposure.

ridges, with bauhinia and brushwood; the herbage consisted of grass, pigweed, saltbash, and roley-poley.*

March 1st.—In the course of to-day's journey of twenty miles, our progress was obstructed at various points, by what we imagined to be creeks, but what ultimately proved to be back-channels, or offshoots from the river. We had therefore spent much pains for nothing, as we should have enjoyed plain sailing by pursuing a more inland track. Early in the journey we came upon abundance of bushes like the English box, bearing extremely agreeable berries. We cut off sprays, and ate the berries as we rode along. Those bushes, by and bye, gave place to the cotton vine, the unripe pods of which were milky and quite palatable.

Next day, being Sunday, we had made up our minds to devote to rest; but the presence of blacks—the first seen since leaving the Albert—rendered it imprudent to remain. We accordingly removed to a spot five miles distant during a torrent of rain, which continued to keep us weather-bound for two days. But the blacks evinced so little curiosity with reference to ourselves or our movements, that they did not trouble themselves to follow us.

Near our next encampment, nineteen miles higher up the river, my black boys caught five opossums, which, inclusive of a number of rats, afforded them a sumptuous supper. These rats seemed to me of the Norway breed, and they are as distinguished for their fecundity in the bush as elsewhere. In scouring the plains the tramp of the horses would frequently demolish their burrows, thus sending them abroad

* Roley-poley is an annual salsolaceous plant, of the form of a ball, several feet high, easily broken from its stem, and rolled along by the winds; hence its name. It is a habitat of rich plains, and withers in the dry season.

in such a hurry-scurry that we easily killed them with our whips. When roasted, they looked really so tempting that, barring their odious tails, they almost vanquished the "civilised" prejudice I had entertained against them.

In our next journey, we were brought to a stand-still by a creek that crossed our path. Having despatched my party to trace it downwards, I swam across for the purpose of taking the altitude of the sun from a plain on the farther bank.* On rejoining my companions, I found them brought to a dead halt at the angle formed by the *outlet* of the creek from the river, and where it was necessary to encamp. The position was a rather hazardous one, as a sudden rise of the flood, so peculiar to Australian rivers, would have swept us away. Fortunately, however, it subsided so much during the night, that, notwithstanding the bogginess of the approach and the consequent objection, on the part of the horses, to enter the water, we managed to cross. To our intense disgust, a ride of four and a-half miles presented us with a repetition of the same task—with the additional disadvantage that this creek was not fordable. Being, therefore, unable to wade over, as before, with the saddles and packs on our heads, we had to resort to the following expedient for transporting those articles in a dry state. Tying them respectively to the middle of a rope (the length of which was at least twice the breadth of the stream), and then passing one end of the rope over the fork of a tree on the further bank, they were easily and safely drawn over. The only special precaution was that of pulling the near end of the rope so tight as to prevent the load from touching the water; and the only piece of

* Lat. 20° 23'.

apparatus we required for rendering the machine perfect was that of a pulley, so as to allow the rope to travel easily, and without being chafed or cut.*

March 7.—Admirably fitted as these sparsely wooded plains appeared to me, in a utilitarian point of view, they occasionally also present features of interest to the lover of nature. The extensiveness of a landscape, where the eye is provided with a variety of resting points, in the shape of groops of umbrageous trees or undulating lines of hills—possesses of itself no mean charms. This morning, for example, the foreground is occupied by the ever-green box and the excoecaria, with the other usual varieties of trees, festooned with lovely creepers; beyond these, the horses are feeding peacefully on a rich grassy plain, stretching to the distant horizon, which is marked by blue mountains, with all their fine gradations of tint. It was of no practical consequence that the advancing sun dissolved that rigid back-ground into thin air, and betrayed the fact, that it had rested its pretensions on a, so called, *mirage*. For, had I not enjoyed the fiction in blissful ignorance of its unreality?

The much more elevated character of the embankment satisfied me that our fording troubles were, for the present, at an end. This region was, as I have said, remarkably well adapted for pastoral purposes. Of course, however, the intelligent settler will plant seeds at the beginning of the wet season, so as to have plants with deep roots. This, together with the erection of tanks, and wells in the back country, would enable him to graze at least twice the quantity of stock that the land

* The importance of bush travellers providing themselves on all occasions with a rope will be rendered apparent by this single example of its utility.

is, otherwise, competent to carry. In the course of this day's journey of sixteen miles, I obtained the altitude of the sun;* and met with polygonum† on a shallow water-course.

We continued to traverse the usual fine description of country, with more of that undulating character to which the term "downs" is applied by squatters, and which is preferred by them to all others. I named this Hervey Downs. Cantering with Jemmy to the river bank in order to obtain a suitable place for obtaining the sun's altitude,‡ I had an extensive view of the surrounding country; to the westward, about ten miles distant, I observed a long belt of trees which probably marks the course of some stream parallel to the Flinders. On rejoining our companions we hastened to complete a journey of sixteen miles, in joyful anticipation of a rest on the following day. We always looked forward to our Sunday's rest; and, I may say, that I learnt during this exploration thoroughly to appreciate that admirable institution; and its celebration, let us hope, was rendered none the less perfect by the addition of a few luxuries to our ordinary rations of damper, jerked meat and pigweed, viz., that of pea-soup for luncheon and rice and jam for dinner. Simple as these dainties may appear to the reader, we enjoyed them with childish zest.

Having noticed the recent tracks of a cow or small bullock, Mr. Bourne, Fisherman, and Jacky set out on Monday morning in quest of it. Their re-appearance on Tuesday dissolved our

* Lat. $20^{\circ} 37' 30$ sec.

† A wiry, scrubby bush, the same as that on the Lower Murray and the Darling, where it is considered of high value, as it not only stands the long drought of summer, but is even then sufficiently succulent to be palatable to cattle. It is generally an index of ground subject to floods.

‡ Lat. $28^{\circ} 48'$.

bright hopes of a luscious beefsteak. It is probable, that the object of our aspirations had been frightened by the blacks from some run near Port Denison,* as his homeward tracks pointed south-east.

March 12.—Since the ascent of the Flinders was now leading us to the eastward of our course, we crossed the river at a point marked by a fall of several feet over flags of sandstone. Having ridden thence twenty miles to the eastward, we encamped on a tributary stream, named by me the O'Connell. The country consisting of well grassed, and thinly wooded downs, corresponded to that of the right side of the Flinders.

Next day, having again espied the bullock's spoor, we followed it up as far as the Flinders. Here, in despair of success, we abandoned the search with longing regrets; and encamped a few miles higher up. Here and there low ridges, wooded with acacia, confine the river. I named a considerable range near our encampment (but on the right bank) Bramston range. We descried a few blacks on one of the flats; pigeons, cockatoos, quail, and hawks were abundant.

On the following day we observed more blacks down on the low flats. On being approached, all ran away, except some gins and children who concealed themselves in a water-hole.

* Port Denison, 380 miles distant. The case recorded in the text is not uncommon. Cattle and horses have been known frequently to return to their original homes five hundred miles distant. A horse of my own twice returned that distance. When cattle brought to a new station are not well looked after, they are apt to stray in the direction of their native home. The following plan for attaching them to a new place has been found to be successful:—For several weeks, the cattle are herded and brought to the yard every night, where they are tended by watchmen till morning. Or, they are allowed to feed unconstrained all night, and driven, in the morning, to the encampment where they are kept all day. Cattle, thus trained, rush to the encampment immediately on hearing the sharp crack of the stockman's whip.

They soon, however, emerged and assembled on the bank, on which stood their coolamans,* full of rats. The old gins were profuse in their offers of the wives of the men who had taken flight. We declined with thanks; though Jacky seemed already transfixed by Cupid's darts, and was ready to surrender his heart and hand to one of the "pretty little ratcatchers' daughters." Jemmy, however, regarded them, and wedded life to boot, with cynical indifference. I presume he had seen domestic bliss under unusual and disadvantageous circumstances. The young damsels had fine eyes, pearly teeth, and an agreeable expression of countenance; and one about ten years of age was adorned with a large bone which perforated the cartilage of the nose.† The children looked particularly lively and intelligent. Jemmy understood a few words of their dialect, but insufficient for any intelligible conversation. Their word for water, "cammo," I caught while they were in the act of filling our cans. We encamped a short distance up a tributary of the Flinders, named by me Sloane creek. We found in the water a quantity of mussels, which we relished extremely.

Half way to our next encampment, we crossed a tributary stream named Walker's Creek, which drained finely grassed downs. Our camp was environed with myall,‡ and an inferior kind of sandalwood. The latter, which is also found near Port Curtis, has been introduced into the market, though, I believe, with indifferent success. This I know, that it makes

* The nob of a tree cut off and hollowed, generally used as a calabash.

† This possibly originates in some ceremony, as many blacks have the cartilage perforated. It is often put to practical use by serving as a temporary rack for the tobacco pipe.

‡ *Acacia pendula*; but this appeared to be a different variety from that of the south.

excellent fuel, its resin emitting a clear candle-like flame and its fragrant smoke acting as a specific against the intrusions of the villainous musquito. Myall is a never-failing index of good sheep country: in a parched season, it forms a good substitute for grass, as both sheep and cattle are fond of it.

Hence I made an excursion across to Bramston's ranges, as I wished to inspect three table-hills at their eastern end. After fording the river, we alighted on indistinct tracks of some expedition party supposed by me to be those made by Walker *en route* north-west from the Nogoia to Albert river dépôt. A ride of a mile brought us to the base of the range, covered in some places with black earth growing luxuriant grass, while in others perforated basalt lay above a sandstone structure. From the summit I saw, about fifteen miles up the left bank of the Flinders, an isolated table mountain, which I named after my brother explorer, Mr. Walker. During our descent, we collected a stock of marjoram, to serve as a beverage.*

March 17.—At ten miles, we were compelled to halt on account of Gleeson's indisposition. He, as well as Jemmy and Fisherman, continued to suffer from debility for several weeks. The only apparent causes were the miasma of the season and poverty of diet. I thought of prescribing tonics for their malady, but as the effect of these would have been to sharpen their appetites for food that had only a shadowy existence, it seemed to me nothing short of mockery to apply them. Stimulants would doubtless have been beneficial, but this would have been more absurd than the prescription of sumptuous diet and *recherché* wines to invalid

* We marked trees on both banks of the river at a point where a tributary joins it on the right bank.

paupers, for, in fact, we had none, except a pint of rum, which it was important to preserve for more urgent emergencies. We encamped two nights in the neighbourhood of Walker's Table mountain, the one night on a flat wooded with myall, the other on the left bank of the river. The country is not only excellent, but also of a picturesque character. The gum and bloodwood trees, on the flats of the right bank, are better adapted for building than any specimens of timber we have seen since leaving the Albert. Walker's Table mountain is composed of sandstone and grassed with triodia. The view from its summit embraced a long line of the lower course of the river, and a small portion of the upper course, closed in by confining ranges.

We finally abandoned the Flinders after a two miles' ride, on the following day. At that point the channel was one hundred and twenty yards wide, covered with quicksand, over the lower surface of which meandered a stream of modest pretensions, as the rapid absorption of its waters forcibly indicated. This point is three hundred miles from the estuary.

CHAPTER XII.

Expedition Oberland to Melbourne (continued.)

Change of Route—Part of the Australian Cordillera—Cornish Creek
—Tower Hill—Suspicious Behaviour of Blacks—Character of the
Country—Bowen Downs—Intercourse with Friendly Blacks—
Attempt to Cross to the Barcoo—The Thomson—Wittin, our Guide
—His Disappearance.

As the Flinders now trended too much to the eastward, we abandoned her pleasant waters for the purpose of reaching the Barcoo, which lay directly to the southward of us. We accordingly steered south for fourteen miles, and encamped at the head of a tributary of Cornish creek, which, in turn, is a tributary of the Landsborough river; this, again, joins the Thomson, and as the Thomson is one of the feeders of the Barcoo—known lower down under the name of Cooper's creek—our new track was clear and well-defined.* In our journey to Cornish creek we crossed part of the Australian Cordillera. Although some of the neighbouring heights were about 2,000 feet above the level of the sea, a wheeled vehicle might easily have been driven along our route. The soil is poor; wooded with iron bark†

* A glance at the map will show the central character of this spot. The head of the Barcoo river was discovered by Sir T. Mitchell, who named it the Victoria River. He fancied that its outlet would be at Carpentaria. Kennedy was sent to trace it, but the completeness of the drought, some distance below the junction of the Thomson, compelled him to return. He guessed the Barcoo, however, to be the head of Cooper's Creek. Subsequently, Gregory, on following it down, on his way to South Australia, ascertained this to be the case. As there is a river in Northern Australia called the Victoria, the native name, Barcoo, is now applied to the river in question.

† Iron-bark belongs to the class *Eucalyptus*.

and blood-wood, and grassed with triodia. In the valleys, the pasturage was good, and the trees were of the acacia class.

March 27.—We expended three days in tracing the southerly creek forty-six miles. The water was copious, and the bed consisted of sandstone, the structure of the holes being such as to fit them well for reservoirs. Sheep, to do well here, must be run in small flocks; for, although there is a fair supply of excellent grass along the creek, triodia is superabundant. This grass is certainly better than nothing, as sheep will eat it willingly enough when it is sprouting, and when more advanced it is preferred by them to starvation.

Near camp, which was pitched on a small westerly feeder of the Cornish, we observed dray tracks, distinct enough on the flats, but, on the ridges, imperceptible. These were satisfactory indications that we should find a station on Bowen Downs, a few miles to the south. In a neighbouring water-hole, Mr. Bourne caught a quantity of small fish, and Fisherman gathered a supply of mussels.

A ride of seven miles across country presented us with three different varieties of land: first, barren ridges wooded with iron-bark and bloodwood; second, flats covered with myall, sandalwood, gidya, and saline herbage; and lastly, fine undulating grass country. From a height I descried, with intense pleasure, Tower Hill, fifteen miles distant, which marked the terminus of a previous expedition of mine, from Rockhampton. On reaching it, on the following day, I was glad to find I had made no mistake, which one is extremely apt to do where the hills are so much alike, their general form being that of pyramidal mounds, topped with ruins.

The surrounding country consists of treeless downs, the depressions being wooded with myall and gidya. Both soil and grass excellent.

We pitched our camp on the margin of a chain of ponds, half a mile to the east of Tower Hill, where I had the satisfaction of showing my previously marked trees to my companions, as a tangible proof of my knowledge of the country thenceforward. Their hopes were further excited by the expectation of finding a new station of my own, twenty-three miles further on. But I had been counting my chickens before they were hatched, as the district had not yet been occupied.* The cropped appearance of the grass at one place buoyed us up to the last, but Fisherman's conjecture that grasshoppers had been at work proved to be correct.

March 30, being Sunday, was a day of rest, and on the following morning we renewed our southerly journey. At nine miles, we crossed the Cornish near its junction with the Landsborough. After fording, we found ourselves on wooded ranges of considerable extent: these were succeeded by rich, undulating land, well grassed and occasionally belted with box-trees. Here the accidental unloosening of a pack scared its bearer so much that he galloped off and declined halting till he had scattered the contents of his load on the ground. These consisted of medicines and peas, the bulk of which were lost. Deviating from the track of my party, somewhat easterly, I presently found myself on unwooded plains extending as far as the eye could see. Ere long I came on the track of an exploring party, which, with Jemmy's aid, I

* Now occupied by the Landsborough River Company: this and adjoining country, in the hands of other parties, has proved to be of first-rate quality.

traced for some distance ; and then proceeded to camp, which was fixed fourteen miles beyond the last stage.

Next day, a ride of three miles brought us to an old encampment of mine,—being the 69th from Rockhampton. On that occasion, I did not trace the Landsborough beyond the confluence of Arramac creek, five and a half miles lower down. I delayed at that junction in order to take an observation,* meanwhile having despatched my party down the river. On approaching them, Jacky—who was my companion—noticed a number of blacks who appeared to have assumed a hostile attitude towards my party. To inspire them with terror, we advanced at a rapid gallop, but, to our surprise, they remained still, and received us with the customary marks of submission or friendship. They presented to us two boomerangs and a spear, and we gave them a good tomahawk in exchange. No gift is more acceptable to these inland tribes ; for, as only cast-off tomahawks are passed on from hand to hand through the tribes of the settled districts, those who are far inland have but a poor chance of having any but old ones, which are hardly fit for their special purpose of procuring opossums and honeycombs. It seemed as if the sudden show of friendship on the part of these blacks was fictitious ; for Mr. Bourne informed me they had followed him three miles ; and that one of the most powerful of them, about six feet high, had been particularly offensive. Mr. Bourne had repeatedly fired over his head, without causing him any alarm, and once surprised him in the act of throwing his boomerang. Jemmy, who understood the dialect of this tribe, ascertained that they had seen no

* Lat. 22° 58'

explorers with camels, though they had seen a party to the eastward.

We travelled later in the day than usual, with the view of avoiding a collision with these people ; but, while unsaddling my horse, I observed some of them peering from behind trees. When Jemmy expressed my displeasure at their dogging our steps, they pretended not to have seen us before ; and assured him they would not come near us till morning—which promise they faithfully kept.

On their return, they proved to be very communicative, informing us that the river flowed southward ; that it was joined in about two days' journey by a large river from the north-east ; that a long way down, the river-bank was destitute of grass ; and that there were no hills beyond the ranges in sight, and that they knew of no country to the westward without grass. I am bound to remark that very little dependence is to be placed on their statements ; for, like all uncultivated people, they are much fonder of asking than answering questions, and an approach to accuracy is only to be secured by dint of long and tedious cross-questioning.

This camp was pitched on the left bank of the river, between two isolated ranges : that on the left bank I named Mackenzie Range, the other, Herbert Range. After this, the country was undulating, the soil rich and abounding in myall and gidya : the grass also was good, but, from the absence of rain, not so green looking as that higher up. The low ground, on the river, is wooded with box, having an undergrowth of salt-bush and polygonum. To the eastward there extended a fine open plateau. The increased depth of the river—sixty feet in width—forced upon me the conviction that it was fed

by a larger one from the west. For this reason, it passes under the new name of the Thomson.

April 4.—Our course hither from the Flinders had been nearly southerly, or in the direction of Melbourne; and the Thomson led considerably to the westward of the south, or straight to Burke's depôt, at Cooper's creek. With sufficient provisions, I should certainly have adopted that easier route; and, lamentably low as my commissariat supplies were, I should still have made for Burke's depôt, had I known that Mr. Howitt was there with reserve stores for such explorers as remained in the field. In my ignorance of that fact, I had no resource but to give up tracking Burke and make for the frontier settlement to the southward or eastward; and I chose the former. The approaching dusk found us encamped eighteen miles further, on a chain of ponds named by me Stark creek. Before reaching it, we had to cross two other creeks, respectively named the Salton and the Isabella. A journey of twenty-two miles, on the following day, again brought us to the river, from which we had been straying too far to the left.

Next day's journey extended twenty miles over country similar to the rest of Bowen Downs, and again encamped at the river-side, where we remained till Monday morning. Although the country bore no indications of rain, yet the river was flooded. Here an old black fellow paid us a visit, and, as he was vastly pleased with the effect of the discharge of a gun, he returned next day, and introduced a friend who was curious to inspect the mystery. They examined our equipment with great curiosity, and accepted our gifts gratefully, without attempting to steal anything. The gifts

consisted of a needle and thread, clothes, a broad file, and a broken glass bottle. With the file they would be able to make a tolerable tomahawk (at least better than their own or worn-out iron ones), and the broken bottle they would use as a knife and wood scraper. They seemed to relish some food that we gave them; and by Jemmy's instructions, they learned to say "Thank you, Sir," for what they received. They told Jemmy of a well watered road leading to a river to the southward. On that river, the blacks by their account had clothes, and it was from them that they had got the tomahawks.

We made an attempt to cross the country towards the Barcoo, but were obliged to return through the absence of water. Next day, Jemmy and I advanced to explore the route more minutely. We went along the plains on the left bank of the Thomson, in a south and by west direction, with the expectation of finding a well watered tributary of the Thomson, which was reported by the blacks to join the latter river a few miles below our camp. But as a ride of eight miles failed to bring to light the tributary we were in quest of, we returned to the Thomson and traced it southerly till we met some of the blacks who had misdirected us. They undertook to show us the road, in return for a tomahawk and a shirt. Besides our old friends, I noticed two old gins, and a little girl. One of the gins was frightfully disfigured by the loss of her nose and lips. The little girl was about four years old; plump and of good features. One of the little boys greatly enjoyed a ride on one of our horses, and his friends appeared pleased with our attentions to the sable urchin.

Returning to camp, I brought my party next day, after

a wearisome journey, to the appointed *rendez-vous* with our proposed guides. We found them waiting for us, and ready to conduct us to a suitable place for encamping. Wittin, one of the black fellows, to whom I gave a pound of flour, had it baked by Jemmy into a cake, which he and his companions ate. They were no less pleased with the present of a comb, and Jemmy performed on them, to their intense amusement, the duties of hair-dresser. Wittin and Co. went ahead next day to search for water for our first stage; but, as they were unsuccessful, they gave us the choice of two other practicable roads to the Barcoo River—the one by Stark creek from a point higher up the Thomson—the other by a point lower down. We determined to try the latter.

On the following day, Wittin and a young companion accompanied us; and I gave them a horse to ride alternately. But Monsieur Wittin so greatly preferred horseback to foot, that he appropriated the lion's share. A mile before reaching camp, Wittin and his companion fell in with some friends and we left him with them.

Next day, however, he again made his appearance, with the welcome resolution of guiding us to the Barcoo. He introduced an intelligent looking, gray-haired man, bringing also a tall robust young gin* with a little boy who stood at a respectful distance from us. Indeed, the latter were so timid that, on our approach, they ran away. Wittin, with the air of a patron and connoisseur, showed his friend our guns, water-bottles, &c.

* As before noted, the old blacks have the choice of the handsomest young women, and of many other good things besides. This they effect by pretending to exercise a blighting influence on young men. As children, the males are not allowed to be harshly corrected by their mothers.

Leaving camp at 9.30 we traversed fine, undulating country, with rich soil, dry grass, and box-tree. A short distance from where we encamped, at nine miles and a-half, sandstone ridges, wooded with acacia and sandalwood, stretched along the left bank of the river. Wittin told Jemmy that he had seen to the eastward, about ten moons previously, a party of travellers, consisting of four whites and four black men. He had received a shirt from them, but no bread. Wittin was suffering so much from the unpleasant effects of his equestrian exercise that he wished to return.

Shortly after our next day's start, we observed a considerable range right ahead of us, which Wittin called Trimpie Yawbaw. The highest of some hills to the westward of it I called Mount Pring. For some time we fondly deceived ourselves by trying to imagine some distant emu to be cattle. After a journey of fourteen miles over more level ground than that previously traversed, we encamped.

Anxious to retain Wittin's services as guide, I made free with the name of the Governor of Queensland, promising that he should be forwarded to Bowen Downs, and presented with a medal, tomahawk, and blanket. To keep up his spirits, Fisherman and Jackey treated him to a corroboree dance, for which they painted themselves with white streaks, which, as they danced before the blazing fire, made them appear like skeletons.

The district in which we now found ourselves was that which Gregory had explored in 1859, when in search of Leichhardt's tracks; and, henceforward, I finally despaired of finding Burke's tracks. Led by Wittin, we ascended a creek, which, though then all but dry, showed high flood marks; and the banks were strewn with mussel shells. I

named it the Dunsmore. The ground on both sides is level, the soil rich, and the grass good. Box trees grew near the creek; the country beyond the north bank is unwooded; that beyond the south one grows myall and gidya. Emu in abundance, but too wild to be approachable.

Next day, we were much vexed by the disappearance of our guide. He made for the creek as if to drink, but did not return. It appears, from the report of my black boys, that he dreaded the natives of the Barcoo, as they did not belong to his tribe. As his services had been hitherto of the greatest value, I regretted that he had thought proper to decamp without receiving his promised reward.

CHAPTER XIII.

Expedition Oberland to Melbourne (concluded).

The Barcoo River—Collision with the Natives—Cross-country ride to the Warrego—The Bottle Tree—Scrub Country—Warrego River—Tracks of Cattle and Horses—The First Station—Journey to Melbourne *vid* Darling River—General Remarks.

Following the creek thirteen miles further we reached the neighbourhood of its source in Johnstone Range. Early next morning we made straight for the Barcoo; and we soon found ourselves on its water-shed and one of its feeders, named by me Archer creek. Tracing it for thirteen miles, we arrived at its junction with the Barcoo. This was the point which Sir T. Mitchell reached, in his attempted journey of 1849 to Carpentaria, the practicability of prosecuting which it has fallen to my lot to demonstrate. The river contained abundance of water; but, in order to avoid a collision with the blacks, whose tracks were here fresh, I returned up Archer creek and encamped on a patch of beautiful grass. The country drained by this creek is rich, well grassed, and provided with saltbush. The timber is myall and gidya, with gum trees and box near the river.*

On Monday we ascended the left or western bank of the Barcoo about sixteen miles, along a thickly wooded and ridgy course; here and there, however, the ground was flat, where it was intersected by feeders and backwaters. At such places the new grass was of good quality.

An eighteen miles' journey on the following day led us

* Lat. 24° 35'.

through country of inferior quality, and so densely wooded with gidya that we were compelled to keep to the river flats. While advancing with Jemmy to join my party, I passed an elderly gin and a little boy, and presently, a group of about a dozen blacks. Mr. Bourne stated that they had been following him with something like suspicious persistency. Jemmy ascertained from them that no explorers with camels, and, to my surprise, none with drays had passed this way. We presented them with glass bottles, a powder flask, and some hair from the horses tails. Jemmy warned them not to follow us, but they continued to do so, on the pretence of procuring a light. During the night, however, Jemmy suddenly roused us from our slumbers with the information that the blacks were upon us. We were immediately on the alert, and all but myself discharged their guns in the direction in which they had been heard. We then sent up two rockets, the first of which, being a failure, was hailed with a jeering laugh. Exasperated, as I was, at the treachery of the blacks, I resolved to act on the offensive on the next provocation. Accordingly, on their again approaching at breakfast time, heavily armed with clubs, and throwing sticks, I, after repeatedly warning them, through Jemmy, of their danger, ordered a volley. The discharge wounded one, and the others escaped. On giving chase, the wounded man was despatched in the heat of the moment, and the others disappeared from our view. The fatal effect of my collision with the blacks, in this instance, will always be regretted by me ; but, on calmly reviewing the circumstances of my position, separated, as my small party was, from their horses, what other resource was either safe or prudent ? It is highly probable that these were the same blacks who had been engaged in the tragic

Will's massacre, which took place in this neighbourhood ;* and it was certainly this tribe which made a nocturnal attack on Gregory's party.

To-day we travelled eighteen miles chiefly up the western bank of the river, over poor country, covered with gidya. Fearing lest we should follow up the Alice affluent by mistake, we crossed to the further bank two miles before encamping. Several blacks were, from time to time, in sight ; but, although they wished to speak, we were in no humour for gratifying their curiosity.

Next morning, we struck across country for the river Warrego ; resting on the Sunday, about eight miles to the eastward of our starting point. The country was, in all respects, excellent, and well watered. The general character was that of undulating downs, richly grassed and thinly wooded with myall, gidya, brigalow,† box, &c. The same kind of country continued on the following day's ride of ten miles. During this ride, my horse suddenly dropped dead. She was one of the best of the troupe and in excellent condition. We crossed one of the finest water-courses I have seen in this district ; and we followed it up about six miles. Our route lay through several belts of gidya wood-land, the intervening country being of the same excellent character as that above described, with the additional adornment of the beautiful drooping acacia. The foliage of this tree is lovely, and the wood (which is like ebony, and therefore useful for stock whip handles,) possesses an aromatic smell.

* Mr. Wills was a new settler, and had shewn the blacks every kindness and proof of confidence. Twenty-three persons were murdered, and none but a single shepherd escaped to tell the dreadful tale.

† Brigalow is a kind of acacia, remarkably beautiful when growing in occasional clumps, but, when in profusion, it is very monotonous.

Proceeding easterly for nine miles, we crossed a creek, unfortunately without watering the horses; for a hard ride of sixteen miles presented none to our view. Near the spot where we encamped, the horses luckily found sufficient water to quench their thirst. This part of the country was, on the whole, not to be compared with that before traversed; and, on account of its wooded character, altogether unsuitable for the pioneer squatter, who, from insufficiency of capital, is commonly forced to depasture his sheep in large flocks.

Next day, we kept a south-easterly course, over poor thickly-wooded country. The scrub, which consisted chiefly of mulgah, was occasionally varied with broad-leaved iron bark, bloodwood, curryjong,* and bottle trees. The bottle tree I have formerly noted in connexion with the O'Shannasseys. The shape of the trunk much resembles that of a champagne bottle. When young, the bulby stem is edible, and the wood of the full-grown trees is so soft that the trunk can be easily scooped, or shovelled out. The quality, conjoined with its convenient shape, renders it peculiarly suitable for making canoes. When the bark is pierced, it also provides the thirsty wayfarer with a refreshing draught of pure water. Early in our journey, we were surprised by the discovery of dray-tracks; but whether they dated a few months or several years back, it was impossible to determine.

May 3.—This day's journey of twenty-five miles down the creek found us so tired, that we were not sorry the following day was the Day of Rest. In the course of our ride, we observed a tree marked F. M., and several horse-tracks, which encouraged the supposition that frontier squattages were near. The creek, which now led us southwards, grew in importance,

* *Hibiscus heterophyllus*.

and the flats were clothed with good grass, cotton, and salt-bush. As a whole, however, mulgah scrub held the pre-eminence. A further ride of twenty miles did not impress me more favourably with this district.

In the expectation of finding sheep stations more to the east, we abandoned the creek, and proceeded in that direction twenty-five miles. Our track lay over flat, poor, monotonous country, broken only once by a sandstone ridge. It was thickly covered with mulgah scrub and broad-leaved box, and frequented by numbers of kangaroos and wallabies. Next day's journey presented a repetition of similar experiences. Crossing a creek with high flood-marks, we encamped at the base of a lofty sandstone range. In this neighbourhood the country is more satisfactory. We made a sumptuous supper on emu eggs.

Surmounting the range, we followed the course of a brook flowing to the south-west. The soil here, though sandy, was covered with luxuriant grass. Indistinct traces of horses, or cattle, were numerous; and the appearance of the cypress pine and Moreton Bay ash further excited us with the hope of an early shelter under some hospitable roof. During our ride of twenty-one miles, on the following day, we observed a tree marked 1861, Jachu, C.H.B., A.K.C.*

May 12.—We were now either on the Warrego itself or on one of its tributaries; but, in the hope of soon reaching a sheep-station, I preferred to steer south-south-east. Accordingly, leaving the river, we struck cross-country; and found ourselves stranded in a waterless region. The first day we rode seventeen hours without finding water, and the second day,

* Messrs. Collins, Barker and Jachu, on their route from the Warrego to Rockhampton.

eleven hours, with a similar result. We decided to return to the river, and considered ourselves fortunate in finding water, as the horses had been seventy-two hours without it. The nights were excessively cold, and, on one occasion, we found ice in the buckets. Jemmy got badly burned through lying too near the camp fire. We anointed him with pomatum and bandaged his wounds with calico; but the pain thus occasioned was so great that he begged us to abandon him. Having, however, dusted his body with flour, he was able to sit on his horse.

The country was level and overrun partly with mulgah scrub, partly triodia patches, studded with iron bark, broad-leaved box, and "apple" trees.* I also observed clumps of mimosa—a kind of acacia—more commonly called green wattle.

Next day, we traced the creek to its junction with the Warrego, along whose scrubby banks we rode thirteen miles and encamped. Blacks were observed on the opposite bank, but they deftly avoided us, probably conjecturing we were police-troopers.† We made an excellent supper on a bustard that Mr. Bourne had shot. We were now so short of provisions that one of the horses had been fixed on for slaughter.‡ I was much relieved, however, that Mr. Bourne's successful

* *I.e.*, *Angophora lanciolata*, a beautiful and umbrageous tree.

† We subsequently heard they had lately murdered a hut-keeper in the neighbourhood.

‡ It was Mr. Gregory's custom to feed his party occasionally on horse-flesh, even when his provisions were abundant. His object was to prevent scurvy. Dr. Leichhardt, in cases of dire extremity, subsisted on his beasts of burden. McInlay, in his late northern expedition, was compelled to eat nearly all his stock of horses, cattle, sheep, and camels. Camels were preferred by him to horses, both as beasts of burden and food.

gun saved us from that necessity, by further providing us with an emu.

The appearance of a fine herd of cattle, on the following day, at once charmed and relieved our minds. On seeing us, the cattle made for their camp, whither we were only too eager to follow them ; for the novelty of the sight frightened the pack-horses and caused them to disperse in all directions. We were at length reluctantly compelled to be content with another night's star-gazing.

May 21.—A short ride of three miles brought us to the first human habitation we had seen since leaving the Albert River depôt. It was the station of the Messrs. Williams, and they received and entertained us with every welcome and hospitality. We were shocked to hear the melancholy news of Burke and his companions ; and sat long listening eagerly to the events that had transpired in our long absence from the civilized world. It was far on in the night before we retired to bed—to bed, but not to sleep, for the sensation of being environed by mud walls roofed with shingle was too sudden a change from our late wild and nomadic life.

The situation of this station is good, and the country in the neighbourhood very superior to that by which we had approached it. The distances by the road from Melbourne, Adelaide, Maitland, and Brisbane were respectively 800, 900, 600 and 700 miles. We resolved to make for Melbourne by the river Darling which was 220 miles distant ; and, as there were but few stations on the way, Messrs. Williams kindly supplied us with the requisite provisions.

Four days' journey brought us to a station named Warroorooka, where the river Warrego was imperfectly represented by

water-holes separated at short, but irregular intervals from each other.

On entering the territory of N. S. Wales, I was much struck with the difference in the character of the grass-land as compared with that of Queensland: instead of grass only occasionally varied with the invaluable salt-bush, we traversed large tracts of country entirely clothed with this plant. On the second of June, 1862, I reached Bunnawaunah, where the newspapers informed me of Mr. Walker's arrival at Port Denison, six weeks previous; and that Mr. Howitt was remaining, with a supply of provisions at Cooper's creek, in expectation of my arrival there. But as my most convenient route to Melbourne was by Menindie, I continued to trace the Darling three to four hundred miles to that point, taking with me one of Burke's strayed camels, which I had found. From Menindie I hastened forward in advance of my party, and soon arrived in Melbourne, where the manner of my reception was so enthusiastic and generous as to surprise and confound me. Never, in the course of my life, can I forget the genial and munificent appreciation of my humble task, then manifested by the Metropolis of the South, and, subsequently, by the citizens of Sydney and Brisbane.

Inasmuch as the opening up of the Carpentaria region has become a question of great practical moment, and the prominent result of all the late explorations, I append to this brief and crude sketch of my travels a general description of the pastoral capabilities of the North, as they have been given to the English public, wholly independently of me, by my late second in command, Mr. Bourne; concluding with a general summary of the special district over which I have now the honor to preside.

PASTORAL CAPABILITIES OF NORTH AUSTRALIA.

“THE late rapid progress of Australian exploration has laid open vast territories to British enterprise. It was my fortune to be engaged in one of the expeditions undertaken to search for the lamented Burke and Wills, and in the performance of that duty I resided for several months together at the depôt formed at the Albert River, which flows into the Gulf of Carpentaria. During my stay there I made such investigations into the capabilities of the country, the nature of the climate, soil, vegetation, &c., as lay in my power, and from the knowledge thus derived from personal experience, I am, perhaps, entitled to speak with some authority on these points.

“Since my arrival in England the question has often been asked me whether we shall ever be able to put these recently opened territories to practical use ; and, especially, whether the more northern portions of Australia will be found suitable for the production of that valuable and important commodity which has made the southern portions of the continent so prosperous, viz.—fine wool. As this point is of great interest to all connected with the Australian colonies, I will, with your permission, make a few remarks bearing on this question.

“Judging by its position on the map, no spot on the whole continent of Australia would appear more admirably suited for a colony than the country about Carpentaria, situated as it is in close proximity to the Indian and Chinese markets, and occupying as it does a half-way stage on the route between these and all the south-lying colonies. But reasoning from theory, and what is observed in other parts of the world, it is generally but erroneously supposed that these advantages are negatived by the fact of its lying within the tropics, and that therefore all those conditions of climate, &c., which exist in other parts of the continent, such as New South Wales, Victoria, &c., must be wanting. The heat, it is said, must of

necessity be too trying for European constitutions, and also, that most certainly it would be impossible to produce wool like that grown further south, as the increase of temperature on approaching so much nearer the equator would be such as to change it into hair, or at any rate would render the fleece so light as to make sheep-farming an unprofitable, if not an impossible, pursuit. These opinions I have often heard expressed by many men of the highest intelligence, but who look upon wool-growing as a mere question of latitude; and I do not wonder at it, for I must admit that my own notions were once precisely similar.

“But in speculating upon any question relating to Australia the only safe guide is experience, for Australia has in many respects negatived the preconceived views of some of our most eminent scientific men; and, indeed, nothing is more certain than that arguments advanced upon data supplied by other countries will not apply to it. The theories of science have repeatedly broken down when put forward to explain its anomalous phenomena. What old colonist does not remember the prophecies uttered by scientific men in New South Wales when Moreton Bay (now called Queensland) was first occupied by squatters? It was then confidently asserted that sheep stations would not answer so far north, because the fleece degenerated when grown beyond a certain degree of latitude, and that all attempts to grow wool there would signally fail; and yet experience, the only true test, has proved that fleeces of the finest quality are produced in Queensland, despite its high temperature. Probably the hottest parts (during both day and night) of Australia are the Darling, the Bogan, and the Macquarrie, where Sir Thomas Mitchell found the thermometer to range from 90° to 127° ; yet even there wool is most profitably grown.

“This question of temperature is all-important in relation to the pastoral capabilities of any district; but to judge of these by a single reference to the latitude on a map without taking other data into consideration, such as elevation above and distance from the sea, the existence of mountain ranges, &c., is a complete fallacy. It is owing to local peculiarities of this kind that portions of Australia lying near the tropics—such as the Maranoa and Leichhardt districts—have, con-

trary to all theorising on the subject, proved so well adapted for the production of the finer kinds of wool. It might very naturally be supposed, judging from its physical characteristics, that the country about Carpentaria would prove an exception, seeing that such local modifying conditions are apparently absent. In the neighbourhood of the Gulf there are no lofty ranges; and the elevation of the Plains of Promise is so very trifling, although these plains gradually rise from the coast inland, that they must of necessity be subject to intense heats. Only seventeen degrees from the equator, and but little removed above the level of the sea in their vicinity, what else could be expected but a thermometer ranging so uniformly high as to put all idea of successful wool-growing out of the question?

“And yet, as if on purpose to upset all preconceived notions, and still further to illustrate the fact that from its southern to its most northern extremity all Australia is an anomaly, the real fact is that at its tropical extremity the temperature is actually lower than in those districts alluded to.

“Upon this curious fact all observers and explorers, from Robert Brown, the botanist, to Landsborough, are agreed, and all naturally dwell upon it with surprise. Yet the explanation is very simple as given by Leichhardt in his work, page 377, which I quote. He thus writes:—

“‘The most interesting fact, and which had already been observed by Captain Stokes, was the moderate temperature of this part of the country. If my readers compare my observations on the weather, from latitude 15 deg. 55 min. at the east coast to latitude 17 deg. 39 min. on the west coast of the Gulf, they will be struck by the general complaint of “cold nights.” If they compare the direction of the winds, they will find that at the east coast the southerly and south-south-westerly winds were very cold, and that they became southerly and south-easterly at the apex, and turned still more to the eastward at the west coast. In comparing these directions of the wind, I was led to the conclusion that the large plains were the origin and cause of these winds. The bracing nature of these winds, and of the cold nights, had a very beneficial effect on our bodies, &c.

“ ‘Leichhardt was on the coast during the winter months. My own stay on the Albert River was during the hottest season of the year, viz., from November to February, and during that period I carefully registered the records of the thermometer, and thus found the mean range to be very much lower than in some parts of Victoria and New South Wales. Moreover, the hot winds which Leichhardt said might prevail in summer I found did not exist; so that the very circumstances which elsewhere cause a high temperature to exist produce the very opposite condition at the Gulf of Carpentaria.’ ”*

To these remarks of Mr. Bourne I have to add the following summary brought down to the latest date :—

The shores of the Gulf of Carpentaria are very level for a considerable distance inland. Where the soil is rich, which is commonly the case, it is covered with a fine natural herbage that has proved to be of a most excellent quality for stock of all kinds. Near the watercourses the land is sparsely wooded with stunted box and other trees; but between the watercourses, in many places, there are large plains totally destitute of timber.

According to Captain Stokes, the best authority on the navigation of the Northern coast, the general appearance of the head of the Gulf is that of a low mangrove shore, between ten to thirty feet high, over which the interior is not visible from the offing. Twenty-six inlets, within a distance of 200 miles, were more or less examined by him; three of these proved to be rivers, and three more were nearly as promising. Of the rivers, Captain Stokes evidently regarded the Albert with the greatest favor; but it, like all the others, has a bar at its mouth, which has only eighteen inches of water at low tide. Unfortunately, the tide in the Albert only rises once in the twenty-four hours. The rise at spring tides is from nine to twelve feet, and at neap tides, from three to eight feet. At present the bar offers no great obstacle to vessels sufficiently large for the trade, nor will it for some little time to come, as they can get over it at high water, and afterwards can easily go up the river for thirteen

* This communication originally appeared in the *Daily News*.

miles to a point within five miles of which the river is often fresh, and where there are lagoons of fresh water within an easy distance of the stream.* Shipping ports will before long be established at other rivers besides the Albert. A port on the Flinders will probably obtain the largest share of the produce, from the fact that it will be the outlet to a greater extent of back country; that is to say, as long as exports are confined to pastoral products. The Albert, also, has very fine back country for pastoral purposes, but it is limited in extent, and to the westward it is very inferior; but, on the other hand, the Albert River is more easy of access, being only thirty-three miles distant from Investigator Roads.

Investigator Roads is situated between Bentinck and Sweer's Islands. The former is a well watered island about thirty miles in circumference; the latter, however, although much smaller, is better adapted for settlement in the first instance, as it is not much frequented by blacks. When Captain Norman was cruising in the *Victoria*, along the shores of Carpentaria, in the summer of 1861, in search of traces of Burke's party, he established a depôt on Sweer's Island, and another on the banks of the Albert. The climate was found to be healthy at both places. The heat of the season was found to be alleviated by an almost continual sea breeze. The people at the depôt at Sweer's Island were not much troubled with mosquitoes, which of all nuisances induced by warm weather is perhaps the most annoying. As Investigator Roads presents the only good anchorage for large vessels along the shores of Carpentaria, the future city of the Gulf may be on either Sweer's or Bentinck Island.

Last year (1865) Messrs. Morehead and Young led the way to, and took possession of, some country on the Albert River. Their stock was brought from the Mitchell district by the Upper Flinders; they thus established a road between the two places. The Upper Flinders had previously been settled, and was connected by a road with Port Denison.

The next road was made by Messrs. Macdonald and Co., who led the way with stock from their stations near the head

* The brig *Firefly*, which had a draught of between nine and ten feet, was taken about fourteen miles up the Albert River.

of the Burdekin to the Albert River ; in doing so they made a plain road from the settled country at the north-west of Port Denison to the Albert River.* This enterprising firm made another important step ; they chartered a vessel in Sydney to take stores to the Albert River, which arrived safely at its destination, and has since been followed by several others. So greatly has this traffic increased that already as many as four vessels have been laid on at one time for Carpentaria.

Stock are now depastured throughout the whole length of the Flinders, and on the Cloncurry, which is the western branch of that river. Stock are also depastured on the banks of the Leichhardt, and on the banks of the Landsborough. The estuary of the Flinders is about seventy miles to the eastward of that of the Albert ; and that of the Leichhardt is intermediate. The estuary of the Nicholson is a few miles westward of the Albert River. The entire seaboard between the Nicholson and the Flinders, a distance of more than eighty miles, is already more or less occupied with stock.

The last accounts state that the settlement of the country is progressing favourably. Forty persons (including two females and a medical man) had settled at the spot on the Albert where the *Firefly* was abandoned, and were preparing to erect stores, as soon as the site of the township shall have been proclaimed. As the newly-appointed Police Magistrate and Commissioner, I shall arrive at the settlement early this year, to report on the best sites for townships, and to lay down plans for the future. Hitherto, the blacks have not been found troublesome. Cattle and sheep are said to be thriving admirably, and to compare advantageously in the matter of condition with those on the best stations in other districts.

*A sum has already been voted by Parliament for telegraphic extension beyond Port Denison, and it is probable that this line will ultimately connect Australia with Asia *via* Java and Singapore.

Appendix.

A SYSTEMATIC ARRANGEMENT OF THE PLANTS NOTICED AROUND THE GULF OF CARPENTARIA, FROM THE ROPER TO THE GILBERT RIVER, INCLUDING THOSE COLLECTED DURING MR. LANDSBOROUGH'S EXPEDITION, AND EXAMINED BY FERDINAND MUELLER, P.H.D., N.D., F.R.S.

DESIRED by Mr. W. Landsborough to furnish for the journal of his important expedition across the Continent of Australia a list of those plants known to exist at the Gulf of Carpentaria, I respond most readily to the call, and fulfil thereby the duty which devolves on me of rendering some account of the botanical collections formed during the first part of Mr. Landsborough's expedition, and subsequently placed for examination at my disposal.

It is also obvious, that an exact knowledge of the flora surrounding the Gulf of Carpentaria, and of which as yet nowhere any enumerative index exists, will, irrespective of the interest which it possesses in regard to phyto-geographical researches, be calculated to afford some additional indications of the climatic and other physical conditions of that part of the globe, and which to elucidate becomes all-important at this moment, when, by the opening of several available over-

land routes from the Southern to the Northern shores, the territory near the Gulf of Carpentaria attracts such extensive and deserved attention for the formation of new pastoral settlements.

At Mr. Landsborough's request, I have extended this enumeration so far as to include all the plants observed by myself on the S.W., S., and S.E. territories of the Gulf. For this purpose the corresponding notes were extracted from the yet unpublished diaries kept by myself, when accompanying Mr. Aug. Gregory in his North Australian Expedition during the years 1855 and 1856.

The brief space allotted for this Essay admits neither of my entering into any phytological details beyond such as the appended enumeration affords, nor to offer on this occasion a discourse on the physical geography of the Gulf land. In reference, however, to the latter, very much valuable information is conveyed in Mr. Gregory's journal, published by the Royal Geographical Society of London in 1858; whilst some additional details, more particularly shedding light on the vegetation of the Gulf country, were inserted in Sir William Hooker's *Kew Miscellany* for 1856 and 1857, and into the *Proceedings of the Linnean Society* for 1858 and 1859.

The list of plants now submitted cannot be regarded otherwise than as imperfect, because the vegetation of but very few of the coast points of the Gulf of Carpentaria has been hitherto subjected to any, and none to close examination; whilst the inland vegetation of the Gulf basin could, during the North Australian Expedition of 1856, only be investigated on a single line of exploration, and at a season when the herbaceous plants in a great measure were parched and obliterated. The fact, however, of various herbaceous plants, discovered already by Sir Joseph Banks on the N.E. coast during Captain Cook's first voyage, being found to re-appear in the W. part of Arnhem's Land, leads to the anticipation, that many of these extend around the Gulf; whilst in other parts of littoral tropical Australia so many species of plants have proved identical with those of the Indian coast-tracts, as to warrant the assumption, that future observers will yet add, by investigations of the Carpentaria flora, considerably

to the list of Indo-Australian plants, now already exceeding 700 species.

A glance at the subjoined enumeration will show that the Gulf flora, at least in the tracts hitherto examined, proves devoid of those jungle plants so characteristic of the forest ranges of the Australian East coast; that a vast predominance of aborescent phyllodinous *Acaciæ*, and especially of *Eucalypti*, impress on the vegetation a character by no means dissimilar to the extra-tropical tracts of Australia; that plants indicating a high mountainous character of the country are absent, and that amongst grasses and other herbaceous plants very many occur of nutritious property and of perennial growth, readily renewed by judicious burning, when, after the rains of the summer months, a fresh pastoral green will be desired for the future herds and flocks of the Gulf country, during the cooler and drier season of the year.

Dilleniaceæ.

Hibbertia lepidota, R. Br.; *H. tomentosa*, R. Br.

Menispermææ.

Tinospora smilacina, Benth.

Stephania hernandifolia, Walp.

Nymphæaceæ.

Nymphæa stellata, W.; *N. gigantea*, Hook.

Nelumbium speciosum, W.

Cruciferaæ.

Cardamine eustylis, F. M.

Capparideæ.

Busbeckea Mitchelli, F. M.

Cleome flava, Banks; *C. tetrandra*, Banks.

Violarinæ.

Ionidium enneaspermum, Vent.; *I. filiforme*, D. C.

Droseraceæ.

Drosera Burmanni, Vahl; *D. Indica*, L.; *D. petiolaris*, R. Br.

Frankeniaceæ.

Frankenia lævis, L.

Polygalaceæ.

Polygala arvensis, W.

Pittosporæ.

Bursaria spinosa, Cav.

Pittosporum phillyroides, D. C. ; *P. melanospermum*, F. M.

Caryophylleæ.

Polycarpæa corymbosa, Lam. ; *P. synandra*, F. M. ; *P. longiflora*, F. M. ; *P. spirostylis*, F. M. ; *P. staminodina*, F. M. ; *P. breviflora*, F. M.

Malvaceæ.

Sida corrugata, Lindl. ; *S. retusa*, L. : *S. Indica*, L. ; *S. otocarpa*, F. M.

Abelmoschus albo-ruber, F. M.

Paritum tiliaceum, Juss.

Hibiscus heterophyllus, Vent. ; *H. pentaphyllus*, F. M. ; *H. zonatus*, F. M. : *H. setulosus*, F. M. ; *H. panduriformis*, Burm.

Thespesia populnea, Corr.

Gossypium Australe, F. M.

Malvastrum ovatum, A. Gr.

Sterculiaceæ.

Methorium integrifolium, F. M.

Helicteres Ixora, L.

Sterculia quadrifida, R. Br.

Brachychiton platanoides, R. Br. ; *B. diversifolium*, R. Br. ; *B. ramiflorum*, R. Br.

Cochlospermeæ.

Cochlospermum Gregorii, F. M. ; *C. heteronemum*, F. M.

Buettneriaceæ.

Keraudrenia Hookeri, Walp.

Dicarpidium monoicum, F. M.

Melochia pyramidata, L.

Riedleya corchorifolia, D. C.

Melhanian incana, Heyne.

Waltheria Indica, L.

Tiliaceæ.

Grewia sp.

Triumfetta plumigera, F. M. ; *T. micracantha*, F. M. ; *T. procumbens*, Forst.

Corchorus sidoides, F. M. ; *C.* sp.

Elæocarpus sp.

Hypericineæ.

Hypericum gramineum, Forst.

Elatineæ.

Bergia ammannioides, Roth ; *B. pedicellaris*, F. M. ; *B. verticillaris*, F. M.

Sapindaceæ.

Dodonæa viscosa, L. ; *D. lanceolata*, F.M. ; *D. physocarpa*, F.M. ;
D. acerosa, Lindl. ; *D. oxyptera*, F. M. ; *D. platyptera*, F. M. ; *D.*
stenophylla, F.M.

Distichostemon phyllopterus, F.M.

Atalaya variifolia, F.M.

Cardiospermum Helicacabum, L.

Meliaceæ.

Owenia xerocarpa, F. M. ; *O. reticulata*, F. M.

Melia Azedarach, L.

Viniferæ.

Vitis clematidea, F. M.

Oxalideæ.

Oxalis corniculata, L.

Zygophylleæ.

Tribulus terrestris, L. ; *T. Brownii*, F. M. : *T. Solandri*, F. M.

Rutaceæ.

Boronia artemisioides, F. M. ; *B. grandisepalea*, F. M. ; *B.*
lanceolata, F. M.

Stackhousiaceæ.

Stackhousia viminea, Sm.

Celastrineæ.

Denhamia heterophylla, F. M.

Celastrus Cunninghami, F. M.

Rhamnaceæ.

Colubrina Asiatica, Brogn.

Alphitonia excelsa, Reiss.

Ventilago viminalis, Hook.

Homalineæ.

Homalium brachybotryum, F. M.

Anacardiæ.

Buchanania sp.

Portulaceæ.

Portulaca oleracea, L. ; *P. digyna*, F. M. ; *P. filifolia*, F. M.

Calandrinia spergularina, F. M.

Mollugineæ.

Glinus mollugo, Fenzl ; *G. lotoides*, Loeffl.

Ficoideæ.

Trianthema crystallina, Vahl ; *T. pilosa*, F. M.

Leguminosæ.

- Acacia phlebocarpa*, F. M.; *A. pinifolia*, Benth.; *A. subternata*, F. M.; *A. salicina*, Lindl.; *A. decora*, Reichenb.; *A. dineura*, F. M.; *A. hemignosta*, F. M.; *A. pithyoides*, F. M.; *A. orthocarpa*, F. M.; *A. goniocarpa*, F. M.; *A. drepanocarpa*, F. M.; *A. lysiphloia*, F. M.; *A. delibrata*, A. Cunn.; *A. torulosa*, F. M.; *A. conspersa*, F. M.; *A. calligera*, F. M.; *A. umbellata*, A. Cunn.; *A. sericata*, A. Cunn.; *A. holosericea*, A. Cunn.; *A. limbatâ*, F. M.; *A. dimidiata*, Benth.; *A. latifolia*, Benth.; *A. Farnesiana*, W.; *A. suberosa*, A. Cunn.
Laboucheria chlorostachya, F. M.
Neptunia gracilis, Benth.
Pichecolobium moniliferum, Benth.
Cassia Absus, L.; *C. mimosoides*, L.; *C. pumila*, Lam.; *C. oligoclada*, F. M.; *C. magnifolia*, F. M.; *C. venusta*, F. M.
Bauhinia Leichhardtii, F. M.; *B. Carronii*, F. M.; *B. Hookeri*, F. M.
Petalogyne labicheoides, F. M.
Labichea rupestris, Benth.
Guilandina Banduc, L.
Abrus precatorius, L.
Erythrina vespertilionis, Benth.
Rhynchosia minima, D. C.
Cajanus acutifolius, F. M.; *C. grandifolius*, F. M.; *C. cinereus*, F. M.
Canavallia obtusifolia, D. C.
Vigna sp.
Desmodium biarticulatum, F. M.; *D.* sp.
Alysicarpus styracifolius, D. C.
Lourea vespertilionis, Desv.
Aeschynomene Indica, L.
Zornia chætophora, F. M.; *Z. diphylla*, Pers.
Agati formosum, F. M.
Sesbania armifixa, F. M.; *S. aculeata*, L.
Derris uliginosa, Benth.
Tephrosea purpurea, Pers.
Flemingia, sp.
Uraria Lagopus, D. C.
Psoralea pustulata, F. M.; *P. balsamica*, F. M.; *P. patens*, Lindl.
Indigofera linifolia, Retz; *I. haplophylla*, F. M.; *I. viscosa*, Lam.; *I. enneaphylla*, L.; *I. trita*, L.; *I. trifoliata*, L.; *I. hirsuta*, L.
Lotus Australis, Andr.
Westonia humifusa, Spr.
Crotalaria ramosissima, Roxb.; *C. verrucosa*, L.; *C. medicaginea*, Lam.; *C. Cunninghami*, R. Br.; *C. incana*, L.; *C. juncea*, L.; *C. Mitchelli*, Benth.; *C. retusa*, L.; *C. linifolia*, L. fil.
Bossiaea phylloclada, F. M.
Nematophyllum Hookeri, F. M.
Oxycladium semiseptatum, F. M.
Jacksonia ramosissima, Benth.; *J. dilatata*, Benth.
Gompholobium stenophyllum, F. M.

Leptosema oxylobioides, F. M.

Sophora tomentosa, L.

Euphorbiaceæ.

Croton, sp.

Euphorbia chamæsyce, L. ; *E. hypericifolia*, L. ; *E. deserticola*, F. M. ; *E. sp.*

Excoecaria Agallocha, W. ; *E. sp.*

Petalostigma quadriloculare, F. M.

Adriana tomentosa, Gaudich.

Microstachys chamæleæ, A. Juss.

Glochydion sp.

Melanthesa sp.

Phyllanthus Niruri, L. ; *P. sp.*

Flueggea melanthesioides, F. M.

Synostemon sp.

Chrysobalanææ.

Parinarium costatum, Bl.

Combretaceæ.

Macropteranthes montana, F. M.

Terminalia bursarina, F. M. ; *T. platyptera*, F. M. ; *T. edulis*, F. M. ; *oblongata*, F. M. ; *T. platyphylla*, F. M.

Onagraceæ.

Jussiaea repens, L. ; *J. villosa*, Lam.

Ludwigia parviflora, Wall.

Haloragææ.

Myriophyllum verrucosum, Lindl. ; *M. dicoccum*, F. M.

Haloragis glauca, Lindl. ; *H. leptotheca*, F. M.

Lythraceæ.

Lythrum Arnhemicum, F. M.

Ameletia diandra, F. M.

Ammannia multiflora, Roxb. ; *A. crinipes*, F. M.

Sonneratia acida, L. fil.

Pemphis acidula, Forst.

Rhizophoreæ.

Rhizophora sp.

Ceriops sp.

Bruguiera sp.

Myrtaceæ.

Tryptomene ericæa, F. M. ; *T. oligandra*, F. M.

Calycotrix megaphylla, F. M. ; *C. microphylla*, A. Cunn. ; *C. brachychaeta*, F. M. ; *C. achæta*, F. M. ; *C. arborescens*, F. M.

Verticordia Cunninghamsi, Schauer.

Astartea intratropica, F. M.

Tristania rhytiphloia, F. M.

Melaleuca leucadendron, L. ; *M. lasiandra*, F. M. ; *M. minutifolia*,

F. M.; *M. acacioides*, F. M.; *M. symphyocarpa*, F. M.; *M. bracteata*, F. M.

Eucalyptus rostrata, Schl.; *E. brevifolia*, F. M.; *E. patellaris*, F. M.; *E. leptophleba*, F. M.; *E. microtheca*, F. M.; *E. tessellaris*, F. M.; *E. polycarpa*, F. M.; *E. terminalis*, F. M.; *E. dichromophloia*, F. M.; *E. bicolor*, All. Cunn.; *E. ptychocarpa*, F. M.; *E. aurantiaca*, F. M.; *E. phoenicea*, F. M.; *E. tectifica*, F. M.; *E. latifolia*, F. M.; *E. aspera*, F. M.; *E. ferruginea*, Schauer; *E. bigalerita*, F. M.; *E. confertiflora*, Kipp; *E. tetradonta*, F. M.

Schauer; *E. bigalerita*, F. M.; *E. confertiflora*, Kipp; *E. tetradonta*, F. M.

Eugenia (Jambosa) eucalyptoides, F. M.

Fenzlia obtusa, Endl.

Barringtonia sp.

Careya sp.

Cucurbitaceæ.

Luffa graveolens, Roxb.; *L. leiocarpa*, F. M.

Cucumis picrocarpa, F. M.; *C. jucunda*, F. M.

Muckia scabrella, Arn.

Passifloreæ.

Modecca Australis, R. Br.

Umbelliferæ.

Hydrocotyle Asiatica, L.; *H. grammatocarpa*, F. M.

Didiscus glandulosus, F. M.

Loranthaceæ.

Viscum angulatum, Heyne.

Loranthus vitellinus, F. M.; *L. pendulus*, Sieb.; *L. Preissii*, Miq.; *L. exocarpi*, Behr; *L. grandibracteus*, F. M.; *L. insularum*, A. Gray; *L. sanguineus*, F. M.

Rubiaceæ.

Spermacoce sp.

Pavetta Indica, L.

Pogonolobus reticulatus, F. M.

Morinda citrifolia, L.

Sarcocephalus, cordatus, Miq.

Dentella reprens, Forst.

Hedyotis sp.

Gardenia resinosa, F. M.; *G. edulis*, F. M.

Guettarda speciosa, L.; *G. polyphragmoides*, F. M.

Polyphragmon sericeum, Desf.

Campositæ.

Thespidium basiflorum (*Pluchea basiflora*, F. M., Report on Plants of Babb. Exped., p. 12).

Pluchea filifolia, F. M.; *P. tetranthera*, F. M.; *P. ligulata*, F. M.; *P. odora*, F. M.; *P. macrocephala*, F. M.

Blumea Cunninghami, Cand.

Vernonia cinerea, Less.

Galotis tropica, F. M.; *C. scapigera*, Hook.

Erigeron ambiguum, F. M.

Sphæranthus glaber, Cand.; *S. hirtus*, W.

Monenteles sphacelatus, Lab.; *M. spicatus*, Lab.

Wedelia sp.

Eclipta erecta, L.; *E. platyglossa*, F. M.

Glossogyne tenuifolia, Cass.

Diodontium filifolium, F. M.

Flaveria Australasica, Hook.

Myriogyne minuta, Less.

Sphæromorphæa petiolaris, Cand.

Chrysocephalum apiculatum, Steetz.

Helichrysum lanuginosum, A. Cunn.; *H. bracteatum*, W.

Gnaphalium luteo-album, L.

Sonchus oleraceus, L.

Stylideæ.

Stylidium floribundum, R. Br.; *S. alsinoides*, R. Br.; *S. Floodii*, F. M.

Lobeliaceæ.

Lobelia dioica, R. Br.

Companulaceæ.

Wahlenbergia gracilis, A. D. C.

Goodeniaceæ.

Goodenia hispida, R. Br.; *G. purpurescense*, R. Br.; *G. Armstrongiana*, Vriese; *G. lamprosperma*, F. M.; *G. mollis*, R. Br.

Leschenaultia filiformis, R. Br.

Scævola amblyanthera, F. M.

Sapoteæ.

Sersalisia sericea, R. Br.

Ebenaceæ.

Maba obovata, R. Br.

Jasmineæ.

Jasminum lineare, R. Br.; *J. sp.*

Loganiaceæ.

Strychnos lucida, R. Br.

Mitreola oldenlandioides, Wall.

Mitrasacme constricta, F. M.; *M. elata*, R. Br.

Gentianeæ.

Villarsia crenata, F. M.; *V. nymphæifolia*, Fras.

Canscora diffusa, R. Br.

Erythræa Australis, R. Br.

Apocynææ.

Balfouria saligna, R. Br.

Carissa lanceolata, R. Br.

Asclepiadeæ.

Cynoctonum sp.
Oxystelma carnosum, R. Br.
Gymnanthera nitida, R. Br.
Sarcostemma Australe, R. Br.

Bignoniaceæ.

Spathodea filiformis, D. C. ; *S. heterophylla*, R. Br.

Hydrophyllææ.

Hydrolea Zeilanica, Vahl.

Convolvulaceæ.

Ipomœa gracilis, R. Br. ; *I. denticulata*, R. Br. ; *I. incisa*, R. Br. ;
I. flava, F. M. ; *I. alata*, R. Br. ; *I. hederacea*, R. Br. ; *I. biflora*,
 R. Br. ; *I. eriocarpa*, R. Br.
Evolvulus linifolius, L.
Cressa Cretica, L.

Borragineæ.

Heliotropium Coromandelianum, Retz ; *H. arenarium*, F. M. ; *H.*
Curassavicum, L. ; *H. fasciculatum*, R. Br. ; *H. ventricosum*, R. Br.
H. paniculatum, R. Br.
Coldenia procumbens, L.
Trichodesma Zeilanicum, R. Br.
Cordia sp.

Solanaceæ.

Physalis parviflora, R. Br.
Nicotiana suaveolens, Lehm.
Datura alba, Nees.
Solanum quadriloculare, F. M. ; *S. biflorum*, R. Br. ; *S. corduiforme*,
 F. M. ; *S. melanospermum*, F. M. ; *S. echinatum*, R. Br.

Scrophularinæ.

Buchnera curviflora, R. Br. ; *B. asperata*, R. Br.
Vendellia subulata, Benth.
Mimulus Uvedaliæ, R. Br. ; *M. debilis*, F. M.
Microcarpæa muscosa, R. Br.
Limnophila gratioloides, R. Br.
Gratiola sp.
Morgania floribunda, Benth.
Scoparia dulcis, L.
Stemodia sp.

Acanthaceæ.

Ruellia Australis, R. Br.
Eranthemum variabile, R. Br.
Rostellularia procumbens, Nees.
Hygrophila angustifolia, R. Br.
Nelsonia campestris, R. Br.

Lentibulariaceæ.

Utricularia exsoleta, R. Br. ; *U. stellaris*, L. fil.

Primulacæ.

Micropyxis pumila, Duby.

Pedalineæ.

Josephinia Eugeniæ, F. M. ; *J. imperatricis*, Vent.

Myoporinæ.

Myoporum sp.

Eremophila bignoniiflora, F. M. ; *E. maculata*, F. M. ; *E. Latrobeli*, F. M. ; *E. Mitchelli*, Benth.

Verbenaceæ.

Avicennia officinalis, L.

Clerodendron inerme, R. Br. ; *C. ovatum*, R. Br. ; *C. costatum*, R. Br. ; *C. medium*, R. Br. ; *C. coriaceum*, R. Br.

Vitex trifolia, L. ; *V. acuminata*, R. Br.

Premna acuminata, R. Br.

Newcastlia spodiотricha, F. M.

Denisonia ternifolia, F. M.

Callicarpa lanata, Vahl.

Lippia nodiflora, Kunth.

Labiataæ.

Teucrium argutum, R. Br.

Anisomeles sp.

Ocymum sp.

Plectranthus parviflorus, W.

Coleus scutellaroides, Benth.

Plumbagineæ.

Plumbago Zeilanica, L.

Ægialitis annulata, R. Br.

Nyctagineæ.

Boerhaavia mutabilis, R. Br.

Pisonia aculeata, R. Br.

Amarantaceæ.

Alternanthera denticulata, R. Br. ; *A. angustifolia*, R. Br. ; *A. nana*, R. Br.

Trichinium nobile, Lindl. ; *T. gracile*, R. Br.

Gomphrena humilis, R. Br. ; *G. flaccida*, R. Br. ; *G. canescens*, R. Br.

Ptilotus corymbosus, R. Br.

Achyranthes Australis, R. Br.

Euxolus rhombicus, Moq.

Salsolacæ.

Salsola Australis, R. Br.

Rhagodia linifolia, R. Br.
 Chenopodium auricomum, Lindl.
 Atriplex sp.
 Aniscantha (Kentropsis) lanata, F. M.
 Enchylæna tomentosa, R. Br.
 Halocnemum sp.
 Arthrocnemum sp.

Polygonaceæ.

Polygonum, Cunninghami, Meisn; P. articulatum, R. Br.; P. attenuatum, R. Br.
 Rumex limosus, F. M.

Laurineæ.

Cassytha sp.
 Gyrocarpus sphenopterus, R. Br.

Proteaceæ.

Persoonia falcata, R. Br.
 Grevillea Goodii, R. Br.; G. Dryandri, R. Br.; G. Chrysodendron, R. Br.; G. heliosperma, R. Br.; G. refracta, R. Br.; G. ceratophylla, R. Br.; G. mimosoides, R. Br.; G. striata, R. Br.; G. gibbosa, R. Br.; G. Wickhami, Meisn.; G. agrifolia, All. Cunn.; G. longiloba, F. M.; G. polystachya, R. Br.
 Hakea arborescens, R. Br.; H. lorea, R. Br.; H. purpurea, Hook.
 Stenocarpus acacioides, F. M.

Thymeleæ.

Pimelea sanguinea, F. M.

Santalaceæ.

Santalum, lanceolatum, R. Br.
 Exocarpus latifolia, R. Br.

Utiææ.

Solenostigma strychnoides, Planch.
 Sponia sp.
 Ficus aspera, Forst.; F. sp.

Casuarineæ.

Casuarina equisetifolia, Forst.

Coniferæ.

Callitris verrucosa, R. Br.

Ephedreæ.

Ephedra arborea, F. M.

Cycadeæ.

Cycas sp.

Hydrocharideæ.

Hydrilla dentata, Casp.
 Ottelia alismoides, Pers.; O. ovalifolia, F. M.
 Blyxa octandra, Decaisne.
 Vallisneria spiralis, L.

Alismaceæ.

Alisma ancanthocarpum, F. M. ; *A. oligococcum*, F. M.

Najadeæ.

Najas minor, All.

Juncagineæ.

Potamogeton crispus, L. ; *P. tenuicaulis*, F. M.

Ouvirandra sp.

Apanogeton sp.

Orchideæ.

Cymbidium caniculatum, R. Br.

Philydreæ.

Philydrum lanuginosum, Banks.

Hæmodoraceæ.

Hæmodorum ensifolium, F. M.

Amaryllideæ.

Crinum venosum, R. Br.

Dioscoreaceæ.

Dioscorea sp.

Smilacinæ.

Smilax latifolia, R. Br.

Pontederiaceæ.

Limnostachys cyanea, F. M.

Liliaceæ.

Cæsia lateriflora, R. Br. ; *C. chlorantha*, F. M.

Dianella rara, R. Br.

Xanthorrhœa sp.

Asparagus fasciculatus, R. Br.

Commelyneæ.

Commelyna agrostophylla, F. M. ; *C.* sp.

Aneilema sp.

Cartonema spicatum, R. Br.

Typhaceæ.

Typha sp.

Lemnaceæ.

Lemna minor, L.

Pandaneæ.

Pandanus spiralis, R. Br. ; *P. aquaticus*, F. M.

Palmæ.

Livistona sp.

Xyrideæ.

Xyris lævis, R. Br. ; *X. paludosa*, R. Br.

Eriocaulææ.

Eriocaulon setaceum, L. ; *E. concretum*, F. M. ; *E. spectabile*, F. M.

Restiaceæ.

Restio tropicus, R. Br.

Cyperaceæ.

Cyperus uncinatus, R. Br. ; *C. difformis*, L. ; *C. Holoschoenus*, R. Br.

Hypælyptum microcephalum, R. Br.

Kyllingia sp.

Fuirena glomerata, Vahl.

Isolepis barbata, R. Br.

Heleocharis plantaginea, R. Br. ; *H. capitata*, R. Br. ; *H. gracilis*, R. Br.

Fimbristylis pterygosperma, R. Br. ; *F. tetragona*, R. Br. ; *F. gracilis*, R. Br.

Scirpus plumosus, R. Br.

Scleria sp.

Gramineæ.

Sporobolus Indicus, R. Br.

Perotis rara, R. Br.

Aristida stipoides, R. Br. ; *A. calycina*, R. Br.

Eragrostis Brownii, Kunth ; *E. tenella*, Beauv. ; *E. sp.*

Triodia pungens, R. Br.

Arundo Phragmitis, L.

Eriachne sp.

Pappophorum commune, F. M.

Triraphis pungens, R. Br. ; *T. mollis*, R. Br.

Dactyloctenium Ægyptiacum, W.

Cynodon Dactylon, L.

Paspalum obiculare, Forst.

Panicum gracile, R. Br. ; *P. decompositum*, R. Br. ; *P. Crus Galli*, L. ; *P. semialatum*, R. Br. ; *P. papposum*, R. Br. ; *P. spinescens*, R. Br.

Setaria sp.

Lappago racemosa, W.

Anthistiria membranacea, Lindl. ; *A. sp.*

Andropogon triticeus, R. Br. ; *A. pertusus*, R. Br. ; *A. bombycinus*, R. Br. ; *A. elongatus*, R. Br.

Saccharum fulvum, R. Br.

Imperata arundinacea, Cyr.

Ischæum triticeum, R. Br. ; *T. sp.*

Oryza sativa, L.

Filices.

Notochlaena vellea, R. Br.

Nephrodium propinquum, R. Br.
Ceratopteris thalictroides, Brogn.
Platyzoma microphyllum, R. Br.
Lygodium microphyllum, R. Br.

Lycopodiaceæ.

Lycopodium cernuum, L.

Marsileaceæ.

Marsilea quadrifolia, L.

Characæ.

Clara gymnopitys, Al. Br. ; C. Ceylonica, W.

Musci.

Hypnum sp.
Bartramia sp.

Lichenes.

Usnea barbata, Fr.
Parmelia parietina, Achar.
Lecidea sp.

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